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Understanding Nonverbal Communication

Course Guidebook

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Dr. Mark G. Frank is a Professor and the Department Chair of the Department of Communication, as well as the Director of the Communication Science Center at the University at Buffalo, The State University of New York. Dr. Frank received his B.A. in Psychology from the University at Buffalo in 1983 and received his Ph.D. in Social Psychology from Cornell University in 1989. Following postdoctoral work in the Department of Psychiatry at the University of California, San Francisco Medical School, he taught and researched at the School of Psychology at the University of New South Wales and in the Department of Communication at Rutgers University before returning to the University at Buffalo.

Dr. Frank's work has examined the behaviors associated with real versus falsified emotions, behaviors that occur when people lie, and the factors that make people better or worse judges of emotion and deception. His work has been funded by The National Science Foundation, the U.S. Department of Homeland Security, the U.S. Department of Defense, and the intelligence community. He has used these findings to lecture, consult with, and train U.S. federal law enforcement agencies, intelligence agencies, local and state agencies, and selected foreign agencies, such as the Canadian Security Intelligence Service, the Australian Federal Police, and London's Metropolitan Police Service. He has presented briefings on deception and counterterrorism to the U.S. Congress and the National Academies of Sciences. He is also one of the original members and a Senior Fellow of the FBI Behavioral Science Unit's Terrorism Research and Analysis Project.

In 2005, Dr. Frank won The Rutgers College Class of 1962 Presidential Public Service Award for his work with law enforcement and other professionals. He has also won a Visionary Innovator Award from the University at Buffalo for being a co-inventor of patented software that reads facial expressions in real time. Dr. Frank has also received a National Research Service Award from the National Institute of Mental Health.

Dr. Frank has published numerous research papers emphasizing deception, facial expressions, emotion, and violence in real-world contexts. He has also coedited two books: *Nonverbal Communication: Science and Applications* and the *APA Handbook of Nonverbal Communication*. He has appeared more than 100 times in print, radio, and television outlets, including *The New Yorker*, *TIME*, *The New York Times*, *The Wall Street Journal*, *CBS Evening News*, CNN, the Discovery Channel, and the BBC, among many others. ■

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UNDERSTANDING NONVERBAL COMMUNICATION

Nonverbal communication is a ubiquitous part of everyday life. We see it in the way people move, how they relate to each other, and even in the design of spaces. This course is designed to explore the science of nonverbal communication by examining what we do and why we do it.

The course has three main segments. In the first segment, we will examine how nonverbal communication relates to communication in general. Nonverbal communication adheres to various rules and principles that are often invisible to us, yet become visible once someone violates a rule. Then we'll widen our focus to examine nonverbal communication in the social world by seeing how the deliberate use of space, objects, and color affects our perceptions and interactions with other people.

In the second segment, we zero in on what we tend to think of as body language. We'll examine how your facial and body features affect not only the perceptions of you, but can often reflect some truisms about our lives. We'll also examine how our history as a species may have created these appearance and expressive behaviors. With that, we'll also look at our facial expressions: what they convey, how they appear, and why, at times, you might have a hard time stifling a laugh or a cry. This section also covers the eyes, the voice, and body movements. Finally, this segment covers the questions: How good are we at spotting these nonverbal signals, and are there ways to be better?

The third segment will examine how culture affects nonverbal communication, how nonverbal communication relates to deception, and how nonverbal communication can be useful in interpersonal relationships ranging from professional to romantic life.

By the end of this course, what was previously invisible will become visible thanks to science. You'll gain an appreciation of just how important nonverbal communication is for all aspects of life, and how it reflects our common humanity.

The Science of Nonverbal Communication

This lecture sets the stage for our course, which will focus on the role of nonverbal communication in understanding people. Nonverbal communication can give clues on how people see their worlds and how they react to their worlds. We'll focus on the science of nonverbal communication, but with an eye toward the practical uses of it. This lecture starts out with a description of an important study that raised nonverbal communication's profile in the scientific community. Then it moves on to some traits of nonverbal communication, and what exactly makes it so important.

NINETY-THREE PERCENT

- The "fact" that 93 percent of our communication is nonverbal is not really true, but it has become a cultural meme. That number was based on a single study done by Albert Mehrabian in the late 1960s.

- He examined one particular experimental situation in which an experimenter read words with different intonations and body language. He then asked the judges to indicate what this person really meant.

- Their judgments tended to agree with what the body language reflected 55 percent of the time, what the voice tone reflected 38 percent of the time, and what the words spoken by the person reflected only 7 percent of the time. Therefore, 55 percent plus 38 percent led to the finding that 93 percent of the time, people chose to believe the nonverbal over the verbal information.

Mehrabian never said all communication is 93 percent nonverbal.

- To his credit, Mehrabian never said all communication is 93 percent nonverbal. Being a good scientist, he only claimed it accounted for those behaviors within that single situation he studied. However, popular books and magazine articles have run with this number and allege that all communication is 93 percent nonverbal.

- Mehrabian's finding at least dragged the importance of nonverbal communication out of the shadows and into the consciousness of people. It revealed that nonverbal communication was not just underappreciated, but was essential to fully understanding the human communication process. That study, in fact, was one of the key studies that steered scientists toward studying nonverbal communication extensively, to the point that it is its own area of study today.

ROLES OF NONVERBAL COMMUNICATION

- Nonverbal communication does three things within communication. First, it sets the stage for what sorts of communication is expected in a situation. For example, imagine a church versus a nightclub. The colors, fabrics, sounds, and lights, all connote what sort of communication is expected—they are all nonverbal communication.

- Second, nonverbal communication also serves to regulate verbal communication. For example, hand gestures can direct a person's attention. Another example: By altering one's voice tone, a person can keep the floor when speaking, or signal that they are done speaking.

- Third, nonverbal communication functions as messaging system in and of itself, independent of verbal communication. An example is someone shrugging their shoulders to signal they don't know something.

NONVERBAL AND VERBAL COMMUNICATION

- Nonverbal communication usually works in concert with verbal communication. For example, nonverbal communication can reiterate verbal communication. Imagine someone, when asked if they like pizza, shaking their head while saying, "Yes," or shrugging their shoulders and saying, "I'm not sure."

- Nonverbal communication can also substitute for verbal communication: In response to the pizza inquiry, a person could simply shake their head or shrug without saying anything.

- Nonverbal communication can also contradict verbal communication: shrugging while saying, "Yes," for instance.

- Additionally, nonverbal communication can complement verbal communication, which is how we see it most often. Imagine someone slumping while complaining that they're tired.

- Nonverbal communication can also accent verbal communication: While disciplining children, a parent can use their head, eye contact, and voice tone to emphasize to an eldest brother how he is held to a higher standard than his younger siblings.

- Finally, nonverbal communication can regulate verbal communication. For instance, we drop our vocal tones when we are finished speaking.

CHARACTERISTICS OF NONVERBAL COMMUNICATION

- Scientists have noted that nonverbal communication has various structures and properties, just like verbal communication. A closer look at this will give us interesting insights into others, ourselves, and why we do the things we do. Nonverbal communication has similar but not identical features to verbal communication. It is in those differences where we can glean maximum insights.

- Compared to verbal communication, nonverbal communication is less rule bound. For instance, in verbal communication if someone says, "Zoo the us to let go," you would have trouble comprehending that because the rules of speech, called *syntax*, have been violated. But nonverbal communication can be less strict: A professor wouldn't pat a student on his backside for turning in a good paper, but a basketball player might swat his teammate's behind after a good play.

- One nonverbal rule is called *civil inattention*. For example, imagine seeing a driver picking his nose. You probably wouldn't wag your finger at him; rather, you'd turn away. Civil inattention means that in public areas we need to acknowledge the presence of other people, but we are also to give them their privacy. This is accomplished through brief eye contact. Then the eyes avert.

- Another way we can compare verbal and nonverbal behavior is on intentionality: Nonverbal communication is less intentional than verbal communication. This means that certain nonverbal signs, like sweating, blushing, or a nervously shaky hand, are not done on purpose. But the words we speak we usually specifically choose.

- This means we're less in control of our nonverbal communication. We can't turn on and off the blush, or stop sweating on a moment's notice. There are times when we struggle to suppress a smile, a laugh, or a cry. But we are entirely in control of our words.

- This is why we tend to put more "weight" on nonverbal communication. Because it is not done on purpose, it is often seen as more genuine than verbal. Anyone can say anything, but when we see the shaky hand or the flop sweat on the upper lip, we believe that more than the person's words when he or she says, "I'm not nervous."

- Not only are we in less control of nonverbal communication, we're also less aware of it. We sometimes think we're cool, calm, and collected but are actually showing subtle signs of nervousness. We may not be aware that we are blushing.

- Research on lying has shown that subjects will claim they were poker faced when they were interrogated about lies they told, yet close analysis shows that over 70 percent of the time these subjects show very brief expressions of fear or distress, even though they believed they showed nothing.

- This applies to the receiver of nonverbal communication. Often the subtle smile, or sign of nervousness, is missed. We may erroneously believe someone is feeling happy when they are not, or relaxed when they are in truth quite nervous. This likely accounts for some more recent research that shows that when people are nervous, they believe it is easy for others to detect their nervousness, yet in fact most people don't see it. It's called the *transparency effect*: You believe you are more transparent than you are.

- We are not typically instructed on how to behave nonverbally. People learn it on the fly. For example, we don't have classes in primary school where we're taught how close to stand to people when we speak to them. We're not specifically taught to lower our voice pitch to signal we're done talking.

- But we are taught formal grammar for speaking. We are also taught formal rules for good behavior and etiquette: which fork to use, and to wait our turn. Yet we often learn the hard way when we've violated the finer points of behavior or nonverbal communication rules through others' reactions to us.

CONCLUSIONS

- Because it is harder to manage our nonverbal communication, nonverbal communication is often a better insight into what someone is feeling and thinking. People cannot blush on cue to gain our sympathy, or fully conceal their sweating. People often have a hard time managing their facial expressions.

- This takes us back to the study suggesting 93 percent of our communication is nonverbal. We tend to trust it more. This is why we tend to see it as more the true essence of an individual, and why many ancient societies recognized its importance.

- Therefore, understanding how nonverbal communication fits in the communication process allows someone to widen the amount of information they can obtain about others thoughts, feelings, and actions.

- Many of these behaviors are subtle and quick. In real time, we often miss them. There are ways to train one's self to better detect these clues, but detecting them is only the beginning. At the end of the day you still need to properly interpret them.

SUGGESTED READING

Matsumoto, Frank, and Hwang, *Nonverbal Communication*.

QUESTIONS TO CONSIDER

1 What are the advantages and disadvantages of having a nonverbal communication system as well as a verbal communication system?

2 Mehrabian's study suggested 93 percent of communication was nonverbal (albeit within just that study). That raises a larger question: How would you go about assessing the amount of meaning in any communication that is attributed to nonverbal signs or signals?

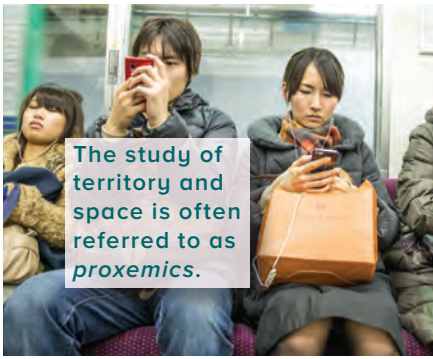
The Meaning of Personal Space

The use of space in design, in our minds, and in our daily lives makes a big difference in our social worlds. It affects what we do, how we feel about others, and how we feel about ourselves. It is not a just a passive endeavor; we actively construct our environments to create safe spaces to try to affect how we feel and whether we invite or discourage social interaction with our fellow human beings. In this lecture, we'll discuss human territoriality. It is considered a form of nonverbal communication because it consists of signs, signals, and effects that are apparent without using words.

WHY BE TERRITORIAL?

- Why do we object to people sitting too close to us when they have plenty of room elsewhere? There are two schools of thought: One, that this behavior is somehow biological; or two, that it is social, and learned behavior entirely. In fact, it is a bit of both.

- The idea that territoriality is biologically wired comes from the famous ethologist Konrad Lorenz. As an ethologist, he studied animal behavior is its natural environment. He proposed that territoriality exists because it spreads out the species, ensuring that the members of any given species doesn't exhaust the resources of any particular area.



The study of territory and space is often referred to as *proxemics*.

- Another explanation from the biologically wired school of thought is reproduction territoriality. Male animals fight off other males to defend a female or females, which are his territory.

- Scientists from the social-learning persuasion suggest instead that we have learned that creating and respecting territories smooths social interactions by clarifying possessions, clarifying how and where people should move, and providing predictability in social interactions.

- Another twist on the social learning explanation is called the *protection safety explanation*. This idea was developed to account for some specifically territorial behaviors, such as keeping a distance from people we don't know that is far enough away to allow us to react to a potential assault.

- The pervasiveness of the phenomenon of territoriality, seen in animals and humans, suggests that there is some combination of biology and social learning. This would not be a surprise, as we see many psychological phenomena that are a combination of both.

EXPRESSING TERRITORIALITY

- There are a number of ways we express our territorial nature. The most obvious way we express our ownership is to use what scientists call *markers*. Some of the markers we may use to save a spot, for example, draping a jacket over a chair to reserve it.

- The more personal the marker, the more power it has to save your space. Scientists have found tables in a university library were more likely to be left alone if the marker was a jacket or notebook compared to a sheet of paper or an unmarked textbook. We also use markers to identify the boundaries of our territories, for example, a fence around a yard.

- We can mark territories verbally—"Hey, that's mine,"—but we can also express the fact that someone is getting too close nonverbally. To the stranger who sits on your park bench, you may give a glare, or look them up and down. This territorial drive is so strong that others know it as well, and will usually honor it.

RANKS OF TERRITORY

- Some territories are more personal, and thus we defend them more vigorously than others. The most vigorously defended territories are called the *primary territories*. Primary territories are those things that are clearly owned by you and only you. That would include your purse, wallet, children, spouse, and so on.

- The second most vigorously defended are the *secondary territories*. These are typically items that clearly belong to us, but for a limited time. This might involve the magazine you're reading in the doctor's office.

- The third most vigorously defended territories are *public territories*. These are public, so someone can theoretically share them, even if it makes you a bit uncomfortable. Examples are tables at food courts and park benches.

- Primary territories are quite clear, but secondary and public territories often require nonverbal signs—markers—to signal that they belong to you. At times we'll even make clear labels, like labeling yogurt in the office fridge.

VIOLATIONS

- When our territories are violated, we show it internally and externally. Studies have shown if your personal space gets violated your blood cortisol levels rise. Cortisol rises in response to stress. Someone violating personal space causes our bodies to stiffen and our elbows to fold in. We turn away and offer our backs in order to reestablish our own space.

- Breaking these rules represents different levels of threat. The first and mildest threat level is called a *territorial violation*. This is when someone steps on your lawn, moves your purse without your permission, or leans against your car. There's no lasting trace that it happened, but it still disturbs your territory. Social norms vary as to whether simple territorial violation is a major problem.

If your personal space gets violated your blood cortisol levels rise.

- The second and higher threat level is called a *territorial invasion*. This is when someone takes over a part of your territory: someone playing soccer on your lawn, taking your purse, or sitting inside your car. This is a clear violation of most social norms and would normally require a response.

- The third and highest threat level is called *contamination*. This is when someone tears up your lawn. It's an assault on your territory, and would require legal remedy in most instances.

- Your territory can be violated not just physically but also psychologically. Staring does this, particularly if it is someone you don't like. Scientists found if you put people in a crowded room, they were most stressed if someone whom they were led to believe would be a difficult person stared at them. If there was no such expectation, the stress was less.

SPACE BUBBLES

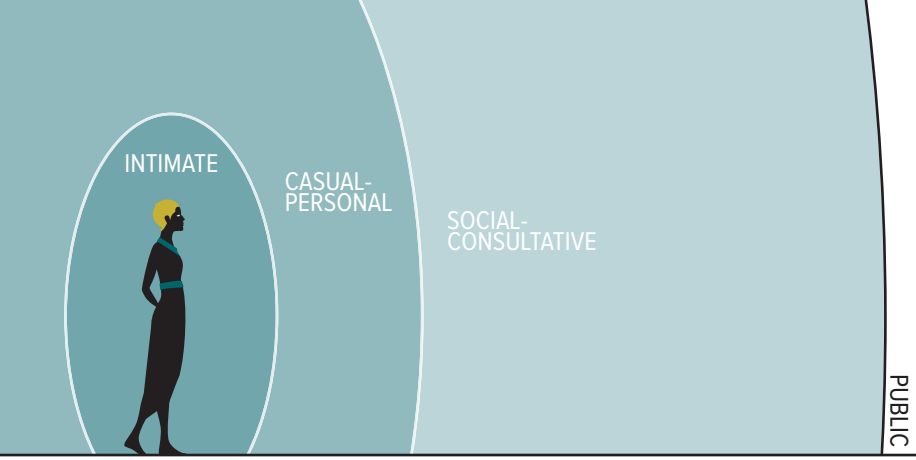
- These rules apply not just to our belongings and physical spaces, but also to our own bodies. It turns out that we seem to carry invisible, portable space bubbles with us. They are like concentric zones that affect what we do, what we think of others, and how we react. Edward Hall, in the 1960s, first described these personal territorial zones.

- The area closest to us, about 18 inches, is called our *intimate zone*. This is the space reserved for intimates: family, close friends, and spouses. We get very uncomfortable when people who are not family, close friends, or spouses enter this zone. When this space is violated we have the strongest physiological reaction. We also tend to take evasive nonverbal action.

- The next zone outward is called the *casual-personal zone*. This zone extends from the end of the intimate zone, or about 18 inches, to about 4 feet. This is the distance in which normal conversation takes place. This is why it is a bit awkward talking to the person directly next to you on the airplane: They are usually within 18 inches, thus too close. It helps that you're both facing forward. This helps reduce that intimacy, compared to being face-to-face at that distance.

- There are times when people violate this causal-personal space without any intentions of interacting, but will still subtly acknowledge each other through what the famous sociologist Erving Goffman called *civil inattention*. Civil inattention is when we make eye contact for a fraction of a second, then avert our eyes, as if to say, "I recognize your presence, but now I will give you privacy."

- The next outer ring of personal territoriality is called the *social-consultative zone*. This is where many day-to-day activities take place if you wish to both acknowledge someone's autonomy, but also respect their privacy. This zone goes from about 4 to 12 feet. Very formal discussions tend to occur in this zone, for instance, a boss talking to an employee across a desk.



- The final ring starts at 12 feet and extends to the limits of what you can hear or see. This is where a public lecture or other activity takes place. We usually don't need to nonverbally acknowledge people in that zone.

LEARNING AND RECOGNIZING

- Like many "rules" in nonverbal communication, we often don't realize we have them until they are violated. We are not formally taught these zones, but we learn them, and we respond with stress reactions when these rules are violated.

- There are some cultural and subcultural variations on these rules. In some cultures, these concentric zones are shorter. For example, in some Arab cultures you are expected to talk to people at a distance close enough to smell their breath.

- In the U.S., we will usually take an open seat that has no one sitting next to it. However, if you were riding that same bus in Tanzania, you would take the seat next to a lone traveler: In that culture, sitting too far away sends the message that you're rejecting the other person.

- Culture is just one factor that may affect this. Status is another: The higher-status person can usually violate the lower status person's space, but not vice versa. We also will adjust the rules for children and allow them to violate our intimate zone.

- There are some gender differences too. Men feel more threatened and hence stressed when the space in front of them is violated, whereas for women, their stress is higher for violations of space sitting next to them.

- How can you use these ideas of space and territory to understand people better and smooth some social interactions?

    - Be aware that everyone has these personal space and territoriality sensitivities. Be aware of the things you do that may create stress in people.

    - Adjust your office space to have traffic move in a way that won't violate people's sense of space. Give your employees something that allows them to own a space, and then respect it. Don't pick up stuff from other people's desks without permission, even if the company owns that stuff.

    - Construct your environment to allow the right amount of psychological private territory. Some bosses choose cubicles for employees, to allow people to work uninterrupted. Others prefer open desks, which sacrifice privacy but allow more information flow.

SUGGESTED READING

Hall, *The Hidden Dimension*.

Morris, *The Human Zoo*.

QUESTIONS TO CONSIDER

1 How does the clarification of space and territory nonverbally affect verbal communication?

2 What may influence how territoriality violations are addressed?

Space, Color, and Mood

As we shape our environments through design and color choices, so too do those environments and color choice shape us. Design and color send messages that are received and acted upon by others. They also affect interactions amongst people, all without using words. This lecture starts by looking at how an environment's layout affects the way people interact (or don't) within it. The lecture then moves on to look at lighting, touching on some surprising things people do in the dark. Finally, the lecture closes with an examination of how different colors provoke different responses.

THE ENVIRONMENT'S MESSAGES

- There are two basic principles that drive how the environment sends messages and affects our behaviors and interactions. The first is that the physical management of the environment shapes the behavioral calculations of people in order to increase or decrease the odds of what they may do and how they feel. The second principle is the environment triggers conscious or unconscious psychological associations that affect perceptions, which in turn affect the behaviors that follow.

- Let's start with the premise that you wish to increase social interactions amongst people. Three main factors come into play: the flow of traffic, the direction people face, and their location within the social space.

- Flow of traffic brings people into contact with things that they may not otherwise encounter. For example, many airports now push the flow of passengers disembarking from international flights right through the middle of the duty-free shop on their way to the immigration officer.

- The flow of traffic can affect the nature and quantity of interactions as well. In an apartment complex, you might see the person near the laundry more often. One study done at MIT in the 1950s found that the most popular couples in apartment complexes tended to inhabit the unit nearest the stairs, boosting their odds of striking up conversations with other tenants, and therefore boosting their popularity.

- You can also direct traffic to get stuck in one place. Gambling casinos are designed this way: The different gaming stations are arranged a bit haphazardly, so finding your way out of the casino is harder. Clocks and windows are also downplayed or absent so it's harder to tell how long you've been inside gambling.

Casinos are typically laid out in a way that isn't conducive to leaving.

- The next factor is the direction people face. This is pretty straightforward: People facing each other are more likely to interact than those not. One example might be sitting at a table versus sitting at a bar. Tables make people face each other, but at a bar, sitting and facing the same direction gives patrons more options to choose to maintain their privacy or to interact.

- The third factor, which helps transition from behavioral calculations to impressions, is location. An example: The person sitting at the head of a rectangular table is statistically much more likely to be seen as the discussion leader.

LIGHTING

- Other design factors also trigger associations that affect how people interact. Lighting is one. People feel more active but less anonymous when a room is brightly lit. Dim light fosters more intimacy, thus, a romantic evening out occurs by candlelight, not spotlight.

- When it gets darker people are more likely to engage in antisocial behavior; we see this as crime escalates at night. Part of the reason is people can move about less seen or identified. But the more psychologically interesting part is that people feel more anonymous at night.

Crime increases at night due in part to a feeling of anonymity.

- In a classic study of the baiting crowd—that is, when a person up on a higher floor of a building threatens to jump and commit suicide, and the crowd starts to encourage them—researchers found that this odious behavior from a crowd was much more likely to occur at night.

COLOR

- Some colors have meanings, and these meanings can influence people's impressions and behaviors. All colors have connotations: how good or bad they are, how weak or strong they are, and how active and passive they are.

- When scientists study colors across cultures they find some consistencies in interpretation, but some cultural variation in usage. White is often seen as good, like a white knight riding to the rescue, whereas black is bad. Red, orange, and yellow—the bright colors—seem to be seen as more active, whereas black, white, blue and pink more passive.

- Sports are one domain where color has shown an interesting effect. One series of studies found that teams with black on approximately 50 percent or more of their uniforms were penalized more than teams that did not have black in their color scheme.

- Subjects who would not recognize these uniforms rated them for how malevolent they looked. Teams that had 50 percent or more black on their uniforms were rated as more malevolent looking.

- When shown identical plays—one set with players in white, and one set with players in black—both college football fans and referees said they would be more likely to penalize the players dressed in black compared to those dressed in white.

Does wearing black affect how people see you, or does it actually make you more aggressive?

- A final study found that when subjects put on white uniforms, there was a tiny increase in their aggressiveness index. But there was a significantly stronger increase in the aggressiveness index for teams that donned the black uniforms. By simply putting on the black uniform, those subjects were willing to engage in more physically aggressive games.

- The question is: Does wearing black affect how people see you, or does it actually make you more aggressive? The answer from these studies suggested it was both. That makes sense: How others see us is often how we see ourselves. It is called *self-perception theory*: If an outsider thinks you look malevolent, you may actually see yourself the same way and start to behave in a way consistent with that evaluation. This may be a mechanism for clothing in general. If it makes us feel more comfortable, more formal, or sexier, our behavior then trends in that direction.

- Black is often the color associated with death, and most cultures have solid black as the funeral color. But this is not true in all cultures: In some parts of Asia it is blue or white, and in Ghana it is red, often mixed with black.

- Color is a great example of our second principle about how the environment triggers conscious or unconscious psychological associations, which then affect perceptions, which in turn affect the behaviors that follow. Black is often associated with bad guys or tough guys. Pink has been associated with femininity.

- Red is the lucky color in Asia: Red decorations appear on holidays. The color red has sexual connotations, too. Women who are ovulating are more likely to wear red dresses. Moreover, women in red dresses capture men's attention more quickly, and men will sit closer and discuss more intimate things with a woman wearing red. Very recent research has shown much the same effect for women's perceptions of men wearing red: The women saw them as more sexually desirable and of higher social status.

Traditional Asian wedding dresses are red—the color of auspiciousness.

- Some scientists argue that red, due to changes in blood flow that cause various body parts to redden, does serve as a sexual signal throughout the mammalian kingdom. Female baboons' rear ends glow bright red when they are sexually receptive. That attracts a male.

- However, there is an aggressive element in play too. Men in sporting uniforms were rated more aggressive in red than in blue or green uniforms. Some scientists attribute this to the reddening of the face with the emotion of anger. Anger causes a change in blood flow and dilates the capillaries in the upper body to be a signal of imminent attack and aggression.

OTHER FACTORS

- Regarding warmth and cold: If you hand someone a warm drink or warm pack and have them rate another person through a still photo, they will rate that other person as being warmer than if you have them hold a cold drink or cold pack.

- People who handled warm packs later trusted other people more, and felt less lonely, than those given cold packs. Even just imagining holding a warm cup will produce a similar result: more positive ratings of others.

- If asked to recall an event where they were included, compared to an event where they were excluded, people gave higher estimates of room temperature when recalling the event where they were included. The associations are clear here: Warmth is comfort and safety, and thus things in the environment that trigger these associations will affect people.

Imagining holding a warm cup can produce positive ratings of others.

- Smells do the same thing: Houses sell faster if there is the smell of just-baked cookies or brownies; people are in a better mood around pleasant smells, and of course the opposite around unpleasant smells. Photos taken of people are rated less attractive if an unpleasant odor is introduced into the room.

- Even objects trigger associations: Pictures of pairs of eyes make people less likely to shoplift. The same occurs with a cardboard cut out of a police officer. This triggers either a lack of anonymity, or triggers associations with the consequences of getting caught in a theft.

SUGGESTED READING

Frank and Gilovich, "The Dark Side of Self- and Social Perception."

Patterson, *More than Words: The Power of Nonverbal Communication*.

Patterson and Quadflieg, "The Physical Environment and Nonverbal Communication."

QUESTIONS TO CONSIDER

1. If we told people what the purpose of a design was, would that change or affect their behavior?

2. How important are first impressions when you enter a room?

3. Can you overdo it with color such that it creates a backlash against the effect you desire?

What Body Type Doesn't Tell You

Our faces and bodies send messages that affect the perceptions of others. Although some of these are based on inaccurate stereotypes, on some occasions they are valid indicators of things such as cooperativeness and health status. This lecture will focus on the facts and fictions about facial and body appearance, and what sort of info we can accurately get from them. In this case, we're talking about static features of the face and body. That means how someone looks when they're not making any expressions or movements.

BODY SHAPES

- Research from the 1940s tried to identify a linkage between our basic body shapes and our personalities. The individual responsible for launching this area of research was William Herbert Sheldon. He said we had three types of bodies.

- The first he called the *endomorph*, which was a heavier, almost fat type body. He proposed that it was caused by the predominance of the digestive system, which works slowly, and in a more relaxed way. The endomorph would be sociable and relaxed.

- The second was the *ectomorph*, a skinny body type. Sheldon proposed this was caused by the predominance of the nervous system, so the ectomorph was likely nervous or introverted.

- The third was the *mesomorph*, which is the more muscular body type. He proposed this was caused by the predominance of the muscular system, so the mesomorph was most likely dynamic.

The link between body type and personality is mainly, but not exclusively, fiction.

- The link between body type and personality is mainly, but not exclusively, fiction. Body type is not a good predictor of personality. However, if you ask people what personality they believe should go with each body type, they tend to agree quite strongly.

- There is some link with having lots of muscles and being a better athlete. It takes some commitment to working out to develop a muscular body, but not enough to look at a muscular athlete and know what their personality is.

HEIGHT

- In many countries, men earn around 2 percent more money per inch of height, although that starts to level out a bit after one exceeds six feet in height. Women who are 5 feet, 8 inches or taller tend to earn around 15 percent more money than their shorter counterparts. Moreover, these taller women are also more likely to report being happier with their appearance than the shorter women.

- In romantic relationships, women tend to prefer men taller than them. Women who live in more dangerous neighborhoods are even more likely to prefer taller, or more formidable-looking men, than women who live in safer areas.

- Research has shown that the top thing men lie about on their dating profiles is their height: They tend to exaggerate it. In contrast, the top thing women lie about on their online dating profiles is their weight: They tend to underestimate it.

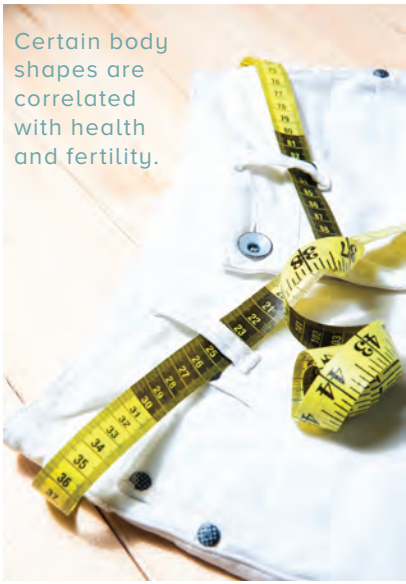
Women tend to prefer men taller than them.

- Why does this preference for taller people exist? Scientists have argued evolution pushes for this. Taller people are bigger people. Everywhere in the animal kingdom, the bigger animals tend to be more dominant. The dominant ones then lead the herd, group, or tribe.

- Taller people are less likely to have suffered nutritional deficits. Scientists know that poor diets can stunt growth. For instance, an increase in protein in diets of Japanese people after World War II caused the average height of males to increase four inches compared to before the war.

- One argument is that the legacy of the ancient world manifests itself in the preference for height. Although we are not as dependent upon physical strength for survival, it still affects our preferences today.

WAIST-TO-HIP RATIO



Certain body shapes are correlated with health and fertility.

- One body feature has been studied more in women than in men: waist-to-hip ratio. There are specific body waist-to-hip ratios in a female body which men find more attractive. Those ratios are correlated with female fertility.

- Overall body size preference by males has changed over time: Heavier was preferred earlier; today, thinner is preferred. The waist-to-hip ratio preference has not changed, so whether a woman is 100, 150, or 200 pounds, her body will initially be more attractive to men if her waist to hip ratio stays at 0.70.

- This is not completely arbitrary. Interestingly, women who have this ratio turn out to be more likely to be fertile than women without this ratio. There are health implications here too. As a woman's

waist-to-hip ratio gets to 0.85 or higher, she is more likely to suffer from type II diabetes and heart disease. These diseases cause women to be less fertile.

- Thus, men prefer certain body shapes, and these shapes are correlated with fertility. It seems men are initially attracted more to women who have a waist-to-hip ratio that signals fertility.

WEIGHT

- There has been a cultural shift in body size preference over the past 125 years in the United States. The bias for more body weight was likely a response to poorer food availability. If you were heavier, that meant you were wealthier and could afford more calories than you needed.

- In some Arabic cultures, a father's status rises the heavier his daughters are, because that means he must be wealthy and can afford enough food to have bigger daughters. Well-nourished daughters are more likely to be fertile.

- However, in Western cultures, obese people are discriminated against. We know now that being overweight is not always healthy (even though it was seen as healthy 125 years ago). Despite differences in preference for body size, the waist-to-hip ratio rule still applies. This is not entirely arbitrary. There is a survival reason behind this: proper nutrition and fertility.

FACES

- Our neutral face—the simple appearance when we're not posing any expressions—influences others' perception of us. Research has shown quite conclusively that individuals will agree on what personality goes with what sort of face, not unlike Sheldon's attachment of certain personality traits to different body types.

- In the 1950s, the psychologist Paul Secord said we agree for three reasons. First, we make what he called *functional associations*. These are associations about how features of our faces serve some purpose that would be an essential part of our personality. For example, people with glasses were seen as smarter, because glasses suggested you read a lot.

- A second reason we agree that certain personalities can be expected from certain facial characteristics is that we make what Secord called *metaphorical associations*. This means that certain aspects of our faces connote specific concepts. Broad-set eyes become a metaphor for a broad mind in this sort of metaphorical association. Narrow-set eyes trigger narrow-minded metaphors.

- The third reason is that we make what Secord called *temporal extensions*. If your mouth has corners that naturally turn up when your face is at rest, and you appear to be smiling, you may be thought of as perennially happy, even if this isn't the case.

- In many cases, this is fiction. But some research in the last 10 years has suggested that some features of a neutral face do indicate certain personality traits, and some are indicative of health conditions.

PERSONALITY TRAITS AND FACES

- The *big five personality traits* are a set of personality traits that social scientists tend to assume we all have in varying amounts. These are conscientiousness, agreeableness, neuroticism, openness to experience, and extroversion.

- Scientists showed photos of individuals who had been assessed on the big five personality traits to subjects, who were asked to rate these faces on those five traits. There were mild but statistically significant correlations between the subjects' personality assessment and the formal assessment of personality.

A person's natural, resting face may make them look grumpy, even if they're not.

- Scientists found stronger results when looking at formidableness and accuracy in identifying body size based upon facial appearance, particularly in still photos of males. Subjects could also predict, based upon facial appearance, who might choose a competitive course of action rather than choosing to cooperate with another.

- It appears that those characteristics associated with dominance and those associated with trustworthiness were detected with most accuracy. Scientists have suggested that the reason may be that we would quickly need to know whether a person is capable of harming us, and whether we should approach this person.

- There are four main ideas for why any link exists at all between personality and facial features, as tenuous as this link is. First, a person's own hormonal levels will influence the fat ratios, bone structure, and musculature of the face. Those hormones are also responsible for behaviors, such as the link between high testosterone and high aggression.

- Second, it could be that those who grow up in certain places are exposed to social interactions that cause them to behave in a way that changes their hormonal levels. Someone growing up in a tough neighborhood may end up fighting more. It is possible that this excess physical aggression may spike hormone levels, affecting the development of the facial features.

- Third, there could be a self-reinforcing loop: If you look aggressive and people retreat from you, you learn you can push more limits and begin to act in a more aggressive way.

- Fourth, maybe the consistent facial movements associated with your behavior may alter the shape of your face. An angry person may make more angry faces, which means you flex the facial muscles near the eye ridge. This repeated flexing strengthens those muscles, makes them more prominent, and makes the face look more aggressive.

- We don't know if any, or all, or some of these suggestions have any validity. But they are at least a place to start thinking about this phenomenon.

FACES AND HEALTH

- People tend to agree on which faces look attractive and which ones do not. There are measurable factors in faces that predict how attractive people will judge those faces. Symmetry is one of those features. The more symmetrical a face is, the more attractive it will be evaluated. The converse is also true: the less symmetrical, the less attractive.

- Research shows that faces that most resemble a composite average face are rated more attractive than most others. Some slightly non-average faces can at times be seen as better looking than an averaged face, but average faces are judged consistently as attractive.

- Scientists also examined what they call *adiposity*, which is the layer of fat under the skin. People with mid range adiposity were seen as most attractive; those with too little or too much were rated less attractive.

- Interestingly, symmetry, adiposity, and averageness have been correlated with health. People with more average faces are healthier than those with more distinctive faces: They had less anxiety, depression, and fewer infections. Scientists believe that less average, more distinctive facial features may be reflective of problems that occurred in development, which could leave a person more susceptible to various illnesses.

- Skin condition is another interesting characteristic of a face. Skin lesions detract from attractiveness, but so does unevenness of the color of the skin. Smoother skin is seen as more attractive, as well as younger and healthier.

- Research has shown that slightly redder skin is seen as healthier, and also correlates with health. Scientists think redder reflects more oxygenation of the blood, which occurs if you are in good cardiovascular shape.

- Yellowness also seems to reflect health. Scientists have found that certain antioxidants are found in a class of chemicals called *carotenoids*, which are abundant in fruits and vegetables. Thus, having a slightly more yellow tone may indicate a stronger immune system, thus making you appear more attractive.

- These characteristics can be seen in a remarkable study that examined the influence of smoking on your appearance. The smokers and nonsmokers tested were identical twins. One twin smoked, and the other did not. When facial photos of the twins are shown side by side, people could tell at rates greater than chance which twin was the smoker, and which was not. Smoking tends to harden your capillaries and the connective tissue in your face. Smokers tend to wrinkle more quickly.

SUGGESTED READING

Re and Rule, “Appearance and Physiognomy.”

Zebrowitz, Montepare, and Strom, “Face and Body Physiognomy.”

QUESTIONS TO CONSIDER

1 How do the belief and stereotypes about our appearance become reality?

2 What are the advantages of having such subtle signals in our static faces?

Evolution's Role in Nonverbal Communication

Some combination of our biology and social behaviors got our species to where it is today. This intersection of biology and social behavior is exactly where the study of nonverbal communication can be placed. Psychologists, sociologists, anthropologists, and even medical researchers study nonverbal communication. Nonverbal communication is hugely important in our daily lives. This lecture will examine where these behaviors came from: why they were useful in the ancient world and how the legacy of those behaviors affects us in today's world.

THE ANCIENT WORLD

- Without cell phones, electricity, modern medicine, books, or even writing, the ancient world was a face-to-face world, where all the information you received came in directly through your senses.

- It was a dangerous world. Nighttime was a dark and scary place outside the confines of the light thrown off by a campfire. There were plenty of predators that lurked everywhere. Any food you needed to stay alive existed as it did in nature: on a tree, a bush, or growing out of the ground. Protein then was either dead already or would try to run, swim, or fly away from you.

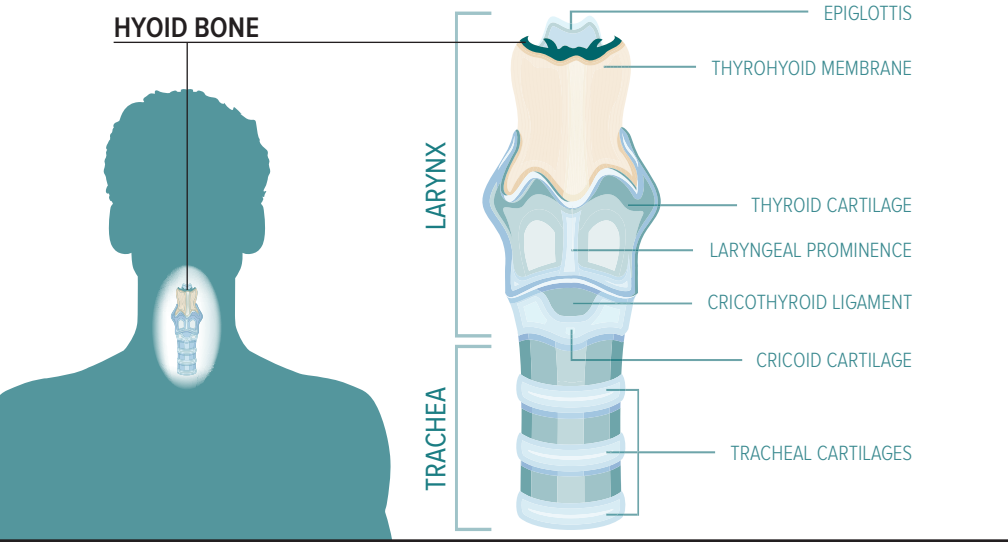
- A number of skills and capabilities were required to navigate this world, and communication was one of the most important. One of the primary skills was the ability to live in social groups, which requires communication.

SURVIVAL

- For around 6–8 million years, various forms of humans walked the earth. But modern humans, *Homo sapiens*, have only been around 100,000–200,000 years. We are the last remaining form of human. Why have we survived when other ancestors, like the Neanderthal, were actually much stronger?

- One big clue is in our anatomy. Scientists have found that throat anatomy suggests that all other forms of human were not capable of articulate speech. The hyoid bone was either missing, or placed in a way that made the larynx so small that there was no resonance chamber that would allow articulate speech. Thus, speech seems to be very much a *Homo sapien* characteristic.

- However, that number of 100,000–200,000 years ago is important: That is not a large time frame as far as human evolution goes. Thus, scientists believe the nonverbal parts of our communication are still with us.



EVOLUTION

- Evolution through natural selection was Charles Darwin's insight into why various species have adapted to particular environments. It is the genes responsible for these adaptations that get passed on to our offspring. A characteristic helpful in one environment may be deadly in a different one; for example, light skin color can be helpful in northern latitudes, but not so in tropical latitudes.

- We can extrapolate this to communication. Members of a species with slow, inefficient communication systems that do not permit speedy warning against predators likely do not survive predator attacks. Those who can signal quickly and efficiently permit many more members of the group to survive and live to reproduce. Communication also helps in hunting and fighting.

- Evolution requires two superordinate tasks.

    - The first thing one must do is survive to the age of reproduction. This means that any behavior that can help ensure survival will be selected for.

    - The second thing one must do is to demonstrate reproductive fitness. Looking strong, disease-free, and able to have healthy children are all things that make one fit for reproduction. The more fit, the more opportunities to reproduce, and the better chance to produce a generation even more fit for reproduction.

STATIC APPEARANCE

- Some elements of our nonverbal communication may have a role in survival and reproductive fitness. The first thing to note is that our facial features communicate essential survival tasks, both through how we look and how those features move.

- *Static appearance clues* refer to how you look. These include our identity or group membership. How does this tie in to survival? An example is chimpanzees killing chimpanzees from rival groups they catch out alone. Distinguishing "us" from "them" has been an essential survival task.

- This ability to form groups, and then to see your group as better than other groups, is one of the most highly documented behavioral observations in the history of psychology research. This propensity can be one of the primary mechanisms for causing prejudice and racism in our species.

The propensity to form groups and view other groups as inferior causes prejudice and racism.

- The conflict that emerges as a function of this inclination seems to be more apparent, speedy, and severe in males compared to females. Men are more violent, responsible for up to 90 percent of all homicides that occur on our planet. Men are more prejudiced. They are also more likely to join large groups; scientists note that it is not uncommon for a boy growing up to hang around with groups of 8–12 other guys; whereas girls tend not to hang out in groups larger than 3 or 4.

- The reason for this sex difference, according to some scientists, is due to different evolutionary presses on males versus females. Males fought more than females. They formed coalitions to fight outside groups. They took steps to ensure that the offspring they were providing resources for are in fact their own.

- Women had slightly different pressures. They know their own child shares their genes. They were responsible for most of the childcare, and were drawn to men who could be responsible for protecting and providing resources.

- One hypothesis for these gender differences is called the *male warrior hypothesis*. It suggests that males had to be ready to fight quickly. They became more emotionally volatile (changing quickly from resting to full autonomic nervous system activation).

- One observation that seems to support this male warrior hypothesis: When you put people in a group to compete against an outside group, they will overwhelmingly choose a male leader. However, if the focus of the group is turned internally, even when competing internally, the group is overwhelmingly likely to select a female leader, presumably for her ability to reduce conflict.

EMOTIONAL CLUES

- A second way our faces and nonverbal communication help us survive is through *dynamic emotional clues*. One example of dynamic emotional clues is facial expressions of emotion. A good working definition of emotion is this: Emotions are transient bio-psychosocial reactions to events that have consequences for our welfare, and potentially require immediate action. They are tied to our biology and are involuntary.

- Emotions create outward signals, which are communicated most strongly through our faces, and to a lesser degree our voices. These expressions communicate essential life tasks, help prevent conflict, signal hierarchy and danger, let others know that we need help, or that

there is something novel out there. Examples include anger, which can signal an attack or allow others to back off, and contempt, which can signal status and create clarity in status hierarchies.

- The patterns found in most expressions themselves serve some purpose, according to Darwin. He termed them *serviceable habits*. For example, wide-open eyes allow us to perceive more information, which may allow us to see danger as well as escape routes.

GROUPS AND DOMINANCE

- We communicate group membership nonverbally through the clothes we wear, but also through our faces, the way we walk, and even our odors. Research has shown that babies can identify the smell of their mothers when you give them clothes worn by their mothers.

- Strength is often communicated nonverbally through the concept of dominance. Communicating dominance seems to be more important for males. Scientists have found that certain facial features rate more likely to communicate dominance in males. A stronger eyebrow ridge and a stronger jawline are seen as dominant looking, usually on men who are more likely to compete compared to cooperate.

- Dominance is important for women too, but is expressed more in their choice of male rather than by relying on their own physical strength. Women who live in unsafe neighborhoods are more likely to choose more formidable and dominant-looking males than women living in safer neighborhoods.

FERTILITY

- Perceptions of fertility have been studied more extensively in females. In the past 20 years, scientists have uncovered an interesting result in studies about male preference for female bodies: In general, men find women with a waist-to-hip ratio of 0.70 or less are seen as more attractive.

- There is a connection between having that waist-to-hip ratio and a woman's likelihood, but not guarantee, of conceiving. Of course, it takes two to tango, but nonverbal characteristics associated with male fertility are not really studied with the same alacrity.

- Scientists have also found a parallel finding in the static features of the faces of adult females. Those with younger-looking faces—those who have proportionately larger eyes, smaller noses, and slightly larger foreheads, like you'd see in a child's face—are seen as more fertile, although we do not know whether they are in fact more fertile.

- Finally, scientists have also found clues to fertility—at least as far as a woman being sexually receptive—in the changes in the faces of adult females once they become sexually aroused. Females who are aroused will blush, their pupils will dilate, their lips will engorge more, and they will initiate more physical contact.

- No clear set of signals in the faces of males when similarly aroused, outside of the pupil dilation, have been identified. The assumption from scientists is that males are always sexually receptive, but the costs for raising a child are much higher in a female, so she is much more selective in her sexual receptiveness.

Perceptions of fertility have been studied more extensively in females. … Nonverbal characteristics associated with male fertility are not really studied with the same alacrity.

SUMMING UP

- The ancient world was different than today's world. The things we needed to do to survive—communicate intentions and danger, form groups and navigate social behaviors, and signal fertility—were essential. The legacy of these tasks is still with us today in our nonverbal communication, and may explain some physical features and behavior.

- This legacy may explain why we find certain facial features more attractive: dominant features in males, fertility features in females. We see that legacy in our clothing designs: Men's clothes tend to slim the waist and exaggerate the shoulders. Women's fashions tend to enhance curviness, narrow the waist, and exaggerate the hips and shoulders to produce a more hourglass shape.

- It may also explain why women put on cosmetics the way they do: The blush is placed on the cheeks and the eyes are shadowed to create a wide-eyed look. The use of lipstick, particularly in the red spectrum, mimics the engorgement found in arousal. A sexually aroused woman looks more attractive to men than one who is not.

On military uniforms, epaulets serve to exaggerate the shoulders.

- These are not random actions. The world of 100,000 years ago has left its stamp upon us. It helps us explain why males are more likely than females to lash out in violence, be it in the workplace or at home. It helps explain why men are driven more to join gangs, care about social status, and be more prejudiced than women. It may explain why women care more about fashion, grooming, and wearing makeup compared to men.

- One other thing evolution has also done is given us the ability to *override* these propensities. Living in groups made it essential to do this. In groups you learn to share, even when your hunger says you want to eat it all. In groups you learn to not blurt out your feelings, and to hide your anger, and your sadness. You also learn to show happiness when you may not necessarily be happy.

SUGGESTED READING

Darwin, *The Expression of the Emotions in Man and Animals*.

Frank and Shaw, "Evolution and Nonverbal Communication."

QUESTIONS TO CONSIDER

1 How would someone exploit our ancient predispositions toward nefarious ends?

2 Why would we still have these more primitive nonverbal expressive systems with us today?

3 To what extent is our modern life similar, or different, from the ancient world in which our nonverbal communication evolved?

Secrets in Facial Expressions

The human face is compelling. We look to it to recognize a person. We watch it to see how people are feeling, thinking, and reacting to the world around us. This lecture attempts to shed some light on what facial expressions mean. It also attempts to answer: Are they instinctive, biological reflexes, or are they deliberately chosen, dependent upon our culture for the form and meaning of an expression? The lecture starts with the biology of the face and moves on to what expressions mean and accomplish.

BIOLOGY

- In order to fully understand what facial expressions mean, we first must take a look at the biology of the human face. In 1872, Charles Darwin published a lesser-known book called *The Expressions of the Emotions in Man and Animals*. In that book he argued that emotions, such as anger and fear, were biological and helped the organism to survive.

- According to Darwin, facial expressions evolved to be the mechanism for communicating behavioral intentions. This is done partly through the expression of the emotions.

- Signaling intentions is not unique in the animal kingdom; for example, dogs communicate with their bodies, and whales with their song. However, our nearest biological relatives—the chimpanzees and bonobos—use facial expressions to communicate, like we do.

- That means, according to Darwin, that these facial expressions of emotions are part of human biology, and that they would appear similarly in all people. These emotions include anger, contempt, disgust, fear, happiness, sadness or distress, and surprise.

THREE PRINCIPLES

- Darwin proposed three principles that determine why we make the face we do for each emotion expression. The first principle was called *serviceable habits*—the movements serve some habit that helped execute the emotion. For example, lowering the eyebrow in anger narrowed our focus.
    - In a 2008 study, a group of scientists at the University of Toronto had individuals pose a disgust expression, a fear expression, and a neutral expression. The scientists measured how those expressions affected the size and surface area of the sinus cavity. The more surface area exposed, the more sensory information one can take in.
    - They found that the sensory surface of our sinuses get smaller when we make a disgust face, and they expand when we make a fear face. This was exactly consistent with Darwin's predictions.

Sinuses contract when disgusted ...

... and expand when afraid.

- The second principle Darwin called *nerve force*. These are movements impelled or forced upon the face. An example is a smile someone struggles to suppress at an inopportune time. The question is: Are they biological reflexes, or are they simply learned like language? The answer turns out to be both.

- The human brain has two areas that can trigger a facial expression. One on the outer cortex triggers voluntary, deliberate, and posed expressions. They arrive on the face via the pyramidal motor system. A second area in the deeper sections of the brain, in the limbic system, triggers involuntary, spontaneous expressions of emotion. These latter spontaneous emotion expressions arrive on the face via the extrapyramidal motor system, which gives them a different rhythm to their movements compared to the voluntary movements.

- The extrapyramidal system tends to have a more ballistic, impulsive quality, consistent with the nerve force ideal put forth by Darwin. The pyramidal motor system is more fluid and reactive. Genuine, spontaneous emotion expressions will have a more smooth, rhythmic quality, whereas the posed expressions will be more irregular in their onsets and durations.

The pyramidal motor system is responsible for voluntary and posed expressions.

- When someone feels strong emotion that is socially inappropriate—like joy at someone's misfortune, or trying to not cry—both parts of the brain can send contradictory messages at the same time. These contradictory messages can cause quivering or attempts to suck in one's cheeks to hide a smile.

- Sometimes the motor strip wins and suppresses the expression entirely. But often the inner pulse of the emotion expression will leak out despite efforts to suppress it. When that happens the expression tends to be very brief, often less than half a second long. These expressions are called *micro expressions*.

- Darwin's third principle was called the *principle of antithesis*. He argued the smile looked the way it did because it was the antithesis, or the opposite, of the negative emotions of anger, fear, or distress—thus it would be least likely confused with it.

- If Darwin was right, then the smile should be the expression least confused with other expressions. Research has since shown that to be the case. Moreover, it is the expression we can accurately detect from the farthest distance away.

UNIVERSALITY

- Research supports Darwin's notion that these facial expressions of emotion are universal. The psychologist Paul Ekman was initially skeptical of Darwin's findings of universality. However, he and others noticed when they would show still photos of people posing these emotion expressions, people from literate societies recognize and accurately label them.

- The problem is that these judges could have learned through movies, television, or books which expressions were supposed to go with each emotion. Thus, Paul Ekman in the late 1960s, and later psychologist Carroll Izard in the early 1970s, decided to go to pre-literate societies in places like Papua New Guinea. There, they showed people the same expressions.

- They found that when you show these emotional facial expressions to people from pre-literate societies, they not only recognized them, but they seemed to make them for the same reason as we do in literate societies.

- Furthermore, psychological research has shown that when you elicit emotions—by using video clips, by making people re-experience emotional events from their lives, or by asking them to pose the expression and then hold it for one minute—you produce physiological response profiles consistent with each emotion.

- Studies of children born both deaf and blind show that these children make the same spontaneous facial expressions of emotion as children born with sight and hearing. In fact, the spontaneous emotions are often indistinguishable between these two groups.

IDENTIFYING OTHER EMOTIONS

- Scientists have identified embarrassment, although it seems to be a sequence of actions and does not translate well to a single still photo. There is a blush, a turn away, a hand to the face, and a smile, usually in that order.

- Shame or guilt has been identified, but the evidence is much weaker than for other emotions. For example, a photo of anger will be agreed upon by 80–90 percent of the people who see it, but shame or guilt may be closer to 60 percent.

- Startled has been identified, but scientists consider it a reflex, not an expression. When there's a loud noise you automatically cringe and blink. Pain as well has its own appearance, and may not quite be an emotion.

- Some work has identified that someone who is in genuine pain looks a bit different from someone faking pain. The difference tends to be that the movement of the muscles around the mouth is smoother—consistent with extrapyramidal motor system action that we've seen in other genuine emotions—compared to the fake pain.

- Regarding happiness: In 1862 scientist G. B. Duchenne identified differences in smiles that were posed, and smiles that were, in his own words, "put into play by the sweet emotions of the soul." Darwin himself examined photos from Duchenne and said he couldn't articulate the difference, but individuals looking at the photos could tell which was real pleasure and which was fake.

- Paul Ekman explained why: A smile produced by the emotion of happiness involves not only the smooth lip movements—the zygomatic major muscle—but also involves the muscles around the eye, the orbicularis oculi muscle. When people are being polite, but not necessarily happy, often their smile will lack the eye-muscle action. The genuine smile is now called the *Duchenne smile* in honor of Duchenne's original observation.

CULTURE

- Culture also has a big role in our facial expressions. Paul Ekman first identified *display rules* to account for how cultural rules and norms would dictate when emotional expressions were acceptable and when they were not. We learn these growing up, one example being to never show anger at an elder.

- Each culture has its own display rules. In North America and in parts of Europe people are supposed to be gracious in defeat, to show sportsmanship. This means one needs to usually try to suppress or conceal his or her disappointment.

- In some cultures, one would not show negative emotions to a higher-status person. This was tested in a famous experiment from the early 1970s. This experiment featured Japanese and American students watching a disgusting film.

- The Japanese and Americans, when they viewed the film alone, looked identical in their horror. However, Japanese culture has a display rule about not showing such emotions to a high-status person.

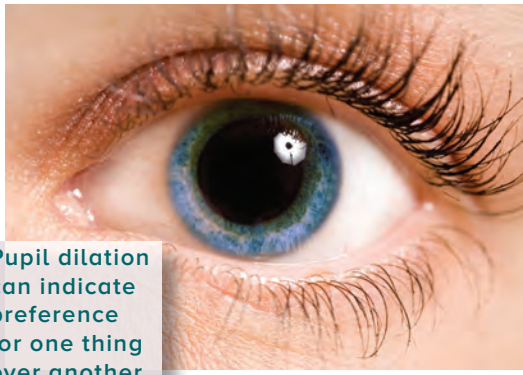
- The scientist brought in a high-status experimenter to watch the individuals watch the disgusting film. The Japanese students now smiled. In contrast, the Americans did not change their behavior patterns from when they were alone. Interestingly, photos of the Japanese subjects show that most were still showing signs of disgust, but attempted to mask them by smiling.

THE EYES

- The eyes can send messages through the dilation or constriction of our pupils, which is an involuntary action, and the use of gaze or eye contact, which is mostly learned behavior.

- Pupils dilate when you find something interesting or you recognize something (called an *orienting response*). This is in addition to the usual function of your iris, which is to open and close to optimize the amount of light entering your eye.

- If someone likes one thing more than another, his or her pupils will dilate to the thing they like the best. The crystal ball used by fortunetellers works this way—when you stare into the crystal ball, the fortuneteller watches your eyes. You're unaware because you're staring at the ball.



Pupil dilation can indicate preference for one thing over another.

- The fortuneteller then fishes around for information until something they say triggers pupil dilation. For instance, if your pupils dilate when the fortuneteller mentions your mother, they'll seize on that and continue from there.

- Eye gaze is a different sort of signal, much of it learned. It sends messages as diverse as love or anger. Cultures have rules that regulate eye contact. In some cultures, it is a sign of respect to look people in the eye when you speak to them. In other cultures, it is a sign of respect to not look people in the eye when you speak to them.

- We tend to have a feel for what "normal" eye contact is. A gaze that goes too long or too short by just half a second just feels wrong. A gaze that is too long may mean the person is interested in you and wants to befriend you, or it may mean an invitation to a fight.

SUGGESTED READING

Adams, Nelson, and Purring, "Eye Behavior."

Bartlett, Littlewort, Frank, and Lee, "Automatic Decoding of Facial Movements Reveals Pain Expressions."

Ekman, *Emotions Revealed*.

Hwang and Matsumoto, "Facial Expressions."

QUESTIONS TO CONSIDER

1 Are there things you can learn to better manage your facial expressions?

2 Why would we want to manage our facial expressions?

Hidden Clues in Vocal Tones

The saying, "It's not what you say, but how you say it," exists because the nonverbal elements that accompany the words we speak are as important as the actual words. We obtain all sorts of information about people based upon the nonverbal elements of voices. The nonverbal elements of speech consist of two things. The first is the style in which we speak, which consists of the patterns of pausing and other irregularities that accompany the words spoken. The second is the tone we use when we speak, and this consists of the acoustic properties of speech such as loudness and pitch. These elements usually impart roughly a single, consistent message, but at other times they can impart different, even contradictory messages.

NONVERBAL ELEMENTS OF SPEECH

- The specific nonverbal elements of speech are often called *paralanguage*, meaning everything but the language. The general tone and rhythm has been called the *prosody*, or the music of speech.

- Scientists have attempted to quantify the qualities of voices—the things that make our voices unique. Scientists have also attempted to quantify the changes in those qualities, and how those changes may reveal what we feel.

- These quantifiable measures of nonverbal information are measured with software programs that measure the frequency, in hertz, of the vocal fold vibrations that produce pitch. We can also measure them more crudely, like counting the number of seconds between the end of a question and the beginning of an answer.

The nonverbal elements that accompany the words we speak are as important as the actual words.

- Tonal qualities have been productive to measure because they are predictive of various behaviors or emotional states. These *tonal* qualities include the following:

    - Pitch: the measurement of the vocal frequency. The length of the vocal folds influences pitch. Individuals with shorter folds—children and women—tend to have higher-pitched voices then men. Differences in pitch can be seen between someone experiencing fear, anger, or happiness. And when people tell a lie, their voice pitch tends to rise

    - Loudness: the measure of the intensity or energy of the voice. For example, angry people, and to a lesser extent happy people, get louder. In contrast, sad people get softer in tone. People who feel disgust also speak more softly.

    - Timbre: the difference between two voices when their loudness and pitch are identical. One analogy is to think of musical instruments: A high C played on a trumpet sounds different than a high C played on a piano. Scientists have not quite been able to quantify timbre, or to identify what it tells us about people and their thoughts and feelings.

A trumpet and a piano can play the same pitch yet sound distinct because they have different timbres.

- Resonance: often measured by the presence of *formants* in the spectrum of a voice. Formants are the specific pronunciation sounds of different consonants, vowels and other sounds. The size of the resonance chambers—mouth, sinuses, and so forth—affects vocal resonance.

STYLE ELEMENTS

- Besides tonal measures, there are style elements in the voice as well. When people feel emotional, or are trying to think on their feet, or trying to deceive, these style elements can clue investigators at rates greater than simply guessing. These are the style elements:

  - Speech rate: This is usually measured as words per minute or words per second. A change in the speech rate can often indicate higher cognitive load or mental effort on the part of the individual; slower means thinking more.

  - Response length: the amount of time a person spends talking. There is some evidence that when people are lying, they choose to utter shorter statements.

  - Speech latency: the time it takes someone to respond to another. It is sometimes referred to as *speech hesitation*. Longer speech latencies have been shown to be reliable measures of higher cognitive load or mental effort. This can tell us when someone is processing an idea more deeply. When people lie, they often consider what they've said earlier and weigh each statement for plausibility, and so take longer to respond to a question.

  - Pauses. There are two types of pauses: filled and unfilled. A filled pause occurs if someone says, "um" or "ah" between words: "I went to the, uh, zoo." An unfilled pause simply does not have the sound: "I went to the … zoo." The number, rate, and duration of pauses are important. When people are thinking on their feet, they tend to have more pauses.

- Speech errors: These are various dysfluencies in speech, such as repeating words, stuttering, grammar errors, slips of the tongue, false starts, and any incoherent sounds that are uttered. They are typically measured as the rate of disturbances per unit of time. An increase in the rate of these disturbances often indicates a higher cognitive load. In particular, disturbances marked by repeating particular words and phrases seem to be important. Maybe the question is difficult, or maybe they are lying and working through and evaluating their alibi right before they speak it.

ENDURING TRAITS

- Enduring traits are the relatively stable demographic or personality characteristics of people.
  - Identity: If we are presented with a 150-second audio clip of someone we know, we can accurately identify them at 98 percent accuracy. Other studies have shown that we recognize familiar people saying “Hello! How are you?” nearly 100% of the time.

- Age is a characteristic that we recognize well from voices, too. A long ago study found that 4,000 listeners could estimate the age of nine unknown speakers on a radio broadcast quite accurately. As we get older, voice pitch deepens—dramatically for males in puberty—but then stabilizes into adulthood, and then rises slightly after age 70.

- Gender is detected at very high rates as well. Even when presented with just six vowel sounds per speaker, detectors were able to accurately identify gender 96 percent of the time. This is likely due to female voices being higher pitched, but also more variable and with lower resonance than male voices.

- Ethnicity is usually determined by accents. Racial identity from voice with accents was identified with 60 percent accuracy, although identification without accents was almost chance. Social class tends to be better and more reliably recognized than ethnicity, closer to 70 percent accuracy.

- Personality is not as tightly tied to vocal qualities, but some types of personality seem to have certain characteristics that make them identifiable. For example, extroverts tend to talk more loudly, with a faster speech rate, shorter pauses, and more variable pitch than introverts.

Our basic emotions ... tend to have unique vocal patterns that are accurately detected by all cultures on the planet.

EMOTION

- Research shows that our basic emotions—anger, contempt, disgust, fear, happiness, sadness, and surprise—tend to have unique vocal patterns that are accurately detected by all cultures on the planet. We see parallels in other animals as they produce vocalizations that communicate threats, danger, nature of relationships, and even their emotional states.

- The ability to detect subtle emotion in the voice is useful in more subtle arenas of life. For example, scientists have tried to use the nonverbal elements of voice to better understand the interactions of pilots in planes that ultimately crashed. Likewise, a physician may decide to spend a bit more time, asking more gentle questions, to a nervous patient, thus receiving more accurate information from the patient to better treat the issue.

- Agreement rates for vocal expressions of emotion range from approximately 54–70 percent for judgments made within a given culture to approximately 32–64 percent for judgments made across cultures.

- Although anger, fear, happiness, and sadness have received the most study, smaller numbers of studies have examined agreement for emotions such as disgust, contempt, boredom, embarrassment, guilt, and shame. Many shades of positive emotion, such as amusement, relief, and contentment, have also received study.

- The results for these emotions are slightly more mixed. For example, shame and guilt often do not show high agreement rates, although they are occasionally misclassified as sadness. Disgust shows irregular agreement patterns, sometimes significantly high and sometimes in significantly low agreement.

- Researchers have shown that we can detect a person's anxiety better in the voice by itself as compared to the face by itself. Some of the qualities associated with anxiety are similar to fear, such as speech disturbances, pauses, and stutters.

- Stress has usually been measured in the context of deception, with a variety of measures purported to measure vocal stress associated with telling a lie—although often to not great accuracy. Despite promises to the contrary, voice detectors for lying have yet to show much accuracy higher than 62 percent: better than guessing but far from perfect.

- Laughter is seen in all cultures, yet the actual acoustic properties vary greatly, suggesting that laughter may serve a few different functions, ranging from extreme joy to nervousness. Crying is also found in all cultures and tends to be mostly associated with sadness—but can be seen at times at supposedly happy occasions. We don't really know why that is.

We aren't sure why people cry tears of joy.

INTERACTIVE TOOLS

- The last important nonverbal elements of the voice are the *interactive tools*. These characteristics refer to those paralinguistic characteristics of the voice that can be directed outward toward others, and thus affect interactions in some observable way.

- The paralinguistic information associated with speech, for example, can influence comprehension of information. People are more likely to remember information that is presented by a speaker with more variable pitch and amplitude in his or her speech than one whose pitch and amplitude do not vary. People are more likely to be persuaded by people who not only vary pitch and amplitude, but also speak with fewer pauses, shorter latencies, and faster speech.

- Related to this topic is the phenomenon of *parentese*, in which a parent speaks with exaggerated pitch and amplitude changes that seem to be more effective in grabbing the attention of a prelinguistic child.

- Paralinguistic information is essential in managing conversations as well. People make subtle adjustments in their voice pitch, amplitude, and style to signal that they are finished speaking. People also request a turn to speak by accelerating their rate of "ums," exaggerating their head nods, and so forth.

- Once people have the floor, they will keep it by increasing their speech rate, loudness, and rate of filled pauses in order to prevent openings for the other to start talking. And finally, once people are finished, they typically drop their pitch and stretch their final word or syllable. If it is a question for which they desire an answer, then the pitch rises at the end.

SUGGESTED READING

Patel and Scherer, "Vocal Behavior."

Sauter, Eisner, Calder, and Scott, "Perceptual Cues in Nonverbal Vocal Expressions of Emotion."

Scherer, "Vocal Communication of Emotion."

QUESTIONS TO CONSIDER

1 What is the optimal way to use paralinguistic information in the voice to identify internal states?

2 Why would we have a redundant nonverbal signaling system in the voice as well our face?

3 What are the advantages and disadvantages of communicating emotion in the voice compared to the face?

Cues from Gestures and Gait

We can use our bodies to send very clear, specific messages. We can use this knowledge to help us in our interactions with other people in our daily lives. Our bodies communicate many things. However, our bodies are not always the clear signaling system that our faces or voices may be. The body and posture usually complement the messages sent by our words, or even our faces. But at times, the body can send a very clear message by itself. To see how this all works, in this lecture we'll divvy up the body into some component parts, then discuss the body postures we adapt. Finally, we'll consider how our bodies in motion can influence communication.

GESTURES: ILLUSTRATORS

- There are three categories of gestures, and each has a different role in communication. These categories are illustrators, emblems, and manipulators. We'll start with illustrators.

- Some scientists call illustrators *speech dependent gestures*. Illustrators accompany speech. By themselves, they have no specific clear meaning. Illustrators help clarify verbal messages.

- There are many types of illustrators. One is called the *baton*. Batons help us keep the rhythm of our speech; for instance, imagine someone moving their hands in synchrony with the stresses of their words.

- There are some general trends in illustrators. When people are very engaged in a topic and excited, their illustrators get bigger and more numerous. When people are less engaged, less interested, or thinking a lot on their feet, then the number of illustrators will go down and the gestures themselves will get smaller.

- This means that if you want to be an effective communicator, don't be afraid to illustrate. Do it properly so you're not pointing or threatening or creating movements that look threatening.

GESTURES: EMBLEMS

- The second type of gesture is an *emblem*. These are also called *speech-independent gestures*. Emblems can stand on their own, and you can communicate speech concepts with them without actually speaking. One example is a nod of the head to signal, "Yes."

- Cultures can have culturally specific meanings for emblems—the gesture is the same, but the meaning can be quite different. An example is the peace sign. In North America you can show a peace sign pointing your palm out or reversing it and turning your palm toward your body. However, in the UK, Australia, South Africa, and so forth, if you turn the palm inward and do the sign, it's a dramatic insult.

- Emblems can be expressed not just simply with our hands but also with our heads, eyebrows, or other parts of the face or body. In the United States, scientists have documented around 175 of these emblems. This is a dynamic process like all language, and new emblems are continually being invented. For instance, militaries have their own sets of emblems.

GESTURES: MANIPULATORS

- *Manipulators* are the third type of gesture. Manipulators have to do with manipulating parts of our faces, bodies, or pieces of clothing. For example, rubbing your nose or your ear is a manipulator. So is adjusting your tie or playing with your glasses.

- In response to stress, manipulators have a U-shaped curve. If someone is relaxed, they'll be more likely to pull on their ear or rub their nose. But if stress occurs, the rate of manipulator use will decrease. Should stress and discomfort continue to build, the manipulators will increase again.

- Manipulators used to be referred to as red-flag indicators of deception in the old police literature. However, research has not supported the idea that liars are more likely to show increased manipulators compared to truth tellers.

- Research has shown that the more manipulators people show when they speak, the less credible they appear. Therefore, if you want to be a more persuasive speaker, try to limit your manipulators.

BODY POSTURE

- The body tends to reflect our various moods or emotional states. When people are angry, they tend to lean forward as if to attack, because anger means attacking. You tend to see more tension in the upper body, and you tend to see clenched fists.

- In contrast, fear is about fleeing or escaping. When people are afraid their body posture tends to lean back. The tension and fear tends to be more in the lower body because it's about escape.

- Happiness is about approachability. When people are happy, they tend to lean forward more. If somebody is romantically interested in someone else, they tend to lean in. In contrast, if somebody's disgusted by something they tend to lean back and pull away.

- Emotions like pride or triumph show body gestures as well. There is a postural change. With pride, chests rise up. In triumph, not only does the chest go up, but also the arms go up into the air. With a loss, the shoulders slump and head goes down.

- In practical terms, this means that if you want to express confidence, try taking up some space. Put the chest up, and the arms out a little bit. Don't overdo it because you may look like you are playing or challenging the other person, which then may backfire. Conversely, if you are trying to control your anger, then lean back. Make sure to unclench your fist.

Dominant things tend to be bigger, which likely has to do with why victorious runners throw their hands in the air.

POSTURE AND MOVEMENT

- When people are in rapport with each other, their bodies will match each other's postures. This physical rapport occurs naturally over the course of our conversations with people we like. Scientists use the term *mirroring* to describe what happens to the bodies of individuals who are in rapport with each other.

- Furthermore, when people are in rapport they feel better, they disclose more information to each other, and they report enjoying the experience a lot more than when they are not in rapport. This means that we can use our bodies to exploit rapport. Successful salespeople more effective build rapport with their customers. They do this by finding things they have in common with a potential client, to express liking, interest, or empathy.

- You can build rapport more effectively if you understand these concepts. If you actively find something you have in common, smile and nod with the individual, and mirror their body posture, you will gain

rapport much more quickly. An example of this working: A study of witnesses to a suicide showed that the subjects who were interviewed by the police officer who built rapport reported more accurate details of the event than those research subjects who were treated in a neutral or uncomfortable fashion.

If you actively find something you have in common, smile and nod with the individual, and mirror their body posture, you will gain rapport much more quickly.

GAIT

- Research shows can we can often identify people by the way they walk. Some people have more distinctive walks than others; sometimes that's due to injury, and sometimes it's just the natural way they move.

- Researchers have found that we can tell the sex of an individual based on how they walk. In something called a *point light display study*, a subject wears a baggy sweat suit to hide features that might give away your particular sex. Then white circles or point lights are put on the subject's knees, ankles, wrists, elbows, and shoulders—all the joints of the body.

- Then the subject walks. The observer sees only the white dots moving. Scientists have found that by simply looking at those white dots, people can tell men and women apart with around 80 percent accuracy.

- This accuracy is typically due to the biomechanics of a female body compared to a male body. Female bodies have a lower center of gravity, and because of that, have a wider hip swing.

- How can we use information on gait? It turns out that we can identify individuals who may be carrying a weapon based on their gait or stride. When you put different weights on the body, it affects how you walk.

- Scientists have noted some things about what happens when people carry weapons. First, the arm swing tends to be less. A person carrying a weapon will often touch where the weapon is to make sure that it is safe and secure. Police officers call this the *weapons pat*. When somebody has a weapon, they are more likely to adjust their stride in a way to not be detected. They may think a little bit more about how they walk.

CRIME

- Surprisingly, you are more or less likely to be a victim of a crime based upon how you walk. Studies with prisoners who mugged people on the street bore this out. In those studies, the muggers were shown videos of pedestrians and asked which one they would try to mug if they had to pick one.

- The muggers in the study tended to agree on which person they would victimize. The general principle is that muggers don't want to exert a lot of energy. Therefore, they look for a victim that will be least likely to fight. Controlling for size and age, it turns out how you walk has a big influence on whether you will be a victim.

- People who are more likely to be a victim tend to walk in shorter strides and tend to have more arm swing. Remember that dominant people take up more space. Therefore, when you walk and take up less space, you look more submissive and therefore more likely to be a target.

- People who are more dominant have a greater distance between the right and left foot. People who are more submissive will have the right and left foot closer. That is one element of the stride that alerts the mugger that you may not put up a fight.

- To help avoid muggings, walk with your legs sufficiently far apart. Walk with a confident stride; don't abbreviate your stride. Walk with your hands out a little bit and your elbows out. Walk with your chest up, and your head up. That look of confidence is really a look of dominance. It suggests that if anyone were to try to mug you, you might put up a fight.

SUGGESTED READINGS

Bull and Doody, “Gesture and Body Movement.”

Cuddy, *Presence*.

Matsumoto, Hwang, and Frank, “The Body.”

McNeill, *Hand and Mind*.

QUESTIONS TO CONSIDER

1 How do illustrators help us comprehend and clarify our speech?

2 What is the role of gestures in the development and execution of verbal speech?

Interpreting Nonverbal Communication

In this lecture, we are going to examine some of the classic literature on our abilities to read emotions in the face and the voice. We will look at abilities to measure other characteristics, too, like affiliation and dominance. We'll examine the factors that make us better or worse judges of nonverbal communication. Then we'll look at some of the tests that scientists use to assess our abilities, and finally discuss some strategies that may make you a better reader of nonverbal communication.

AGREEMENT RESEARCH

- Research on facial expressions has a long history in social science. In the late 1800s, Charles Darwin showed individuals posed photographs of faces displaying emotions, and he found that people seem to have no trouble recognizing certain common human emotions in those photos. Since that time, there have been over 100 studies examining the ability of people to judge emotions from photographs.

- The experimental design is to have individuals photographed posing one of seven basic emotions: anger, contentment, disgust, fear, happiness, sadness, or surprise. The scientist then provides a list of emotions to a subject, who selects the emotion word that best matches the emotion shown in the photograph. When it comes to recognizing the basic emotions, people tend to agree on which emotion label matches which still photograph at rates greater than 80 percent.

- There is a bit of controversy here, because forced choices can sometimes lead to an artificial agreement. To resolve that, another study gave subjects a "none of the above" option in addition to

the seven emotions. High levels of agreement persisted. Furthermore, when people were allowed to write in the emotion rather than selecting from preexisting choices, levels of agreement were still high, around 70 percent.

- In experiments studying the voice, individuals try to simulate an emotion in their voice. Then the recordings are played back to subjects, who select which emotion belongs to which voice.

- The agreement rates here are still high, close to 70 percent. Also interesting is that people are good at recognizing someone's identity from voice alone too. This occurs with 90 percent accuracy.

- The scientific study design for testing people's ability to read bodies is similar: Models simulate walking while angry, fearful, and so forth; then, people judge which emotion is being simulated. Subjects agree at rates higher than 60 percent, for the most part—much better statistically than simply guessing.

People can often tell a person's emotional state just from how they're walking.

- We can often identify friends from their gait alone at rates higher than guessing. We can also determine the gender of a walking person at rates approaching 80 percent.

- In summary, people are good at recognizing emotion from faces, voices, and body movements. We do so at rates clearly above chance. This is somewhat unsurprising: Specific areas in the brain respond specifically to facial expressions of emotion, suggesting that emotions are a normal function of our day-to-day life.

SKILL AT READING NONVERBAL CLUES

- Research suggests that in general, women are much better at reading nonverbal clues compared to men. They are better at reading both the overt and more covert clues to emotion. However, as far as interpreting clues, women tend to be more likely to see the other person in terms of how this other person wants to be seen.

- Men are a touch more cynical. For example, a person showing fear due to telling a lie is more likely to have a woman detect that subtle fear, but she is unlikely to assume it's only due to the person's telling a lie and may think of other reasons for the fear. A man is less likely to detect the subtle fear, but when he does, he is will be quicker to call it a lie. Thus, at least when it comes to judging deception, men and women are equal.

- Why the difference? The best explanation for this is power. Men, who historically have had more power socially, don't need to develop fine-grained observational skills. However, even if you are in a strong power position, it does help enormously to be able to read the behaviors of others.

- Another group that shows strong identification skills is the U.S. Secret Service. They are voracious consumers of any information about subtle behaviors that may help them do their job.

- They spend a lot of time in crowds, trying to identify potentially dangerous people. The sheer volume of time spent doing this helps make them better observers.

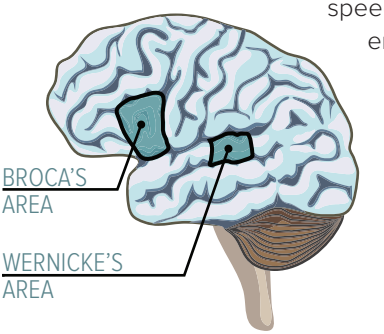
- Moreover, they know that the typical rate of dangerous people is pretty low, so they have to develop even sharper skills to separate the angry protester from the angry protester who wants to shoot the president.

- They are also highly skilled at detecting deception and subtle emotions.

- Other individuals have lives that have forced them to become sharper observers of nonverbal communication.

  - Deaf people are one example: If your ability to process audible verbal information is compromised, other mechanisms will compensate. They often have an enhanced ability to read subtleties in lip movements or hand signals. Moreover, they are also more sensitive to touch and vibration, and in fact use those senses to feel music to the level that they can dance to it in rhythm.

  - Aphasics form a second group. Aphasics, due to some damage in the language processing and production areas of their brain (Broca's speech production area and Wernicke's speech comprehension area), are almost entirely nonverbal communicators (except for writing). The acclaimed author and neuropsychiatrist, Oliver Saks, concluded that it is extremely difficult to lie to an aphasic due to their enhanced nonverbal observational abilities.



- Another group of good nonverbal observers are abused children. This is probably due to the hard and tragic experience of identifying signs of impending abuse, which are likely more emotionally driven, rather than speech driven.

- Maureen O'Sullivan, along with Paul Ekman, during work training law enforcement officers and other professionals, identified another group of people they referred to as the *wizards*. These individuals were performing at 80 percent or better on judging deception and emotion consistently across different videotaped tests.

- O'Sullivan found that these individuals seemed to know they were better than the average person at reading behavior from an early age. The other thing she noticed is that these individuals were drawn to work careers that further pushed those skills, like being a police officer, prison guard, or negotiator.

POOR READERS OF NONVERBAL COMMUNICATION

- Autism very much impairs social functioning, and a hallmark of the disorder is that people on the autism spectrum do not perceive social clues very well. For a time, it was believed that autistic spectrum people do not read or detect facial expressions or other nonverbal clues.

- However, more recent research shows that autistic individuals can recognize facial expressions, even subtle ones flashed for only a fifteenth of a second. But they don't put all the clues together. For instance, an autistic person might see a raised brow, pulled-back lips, and wide-open eyes, but not see the emotion fear.

- These disorders are on a spectrum, so some are better at reading clues than others. The most negatively affected are people with autism, followed by people with Asperger's syndrome, and then by those with a more recent disorder called *nonverbal processing disorder*.

- The good news is that recent research has shown that attempts to train individuals on the autism spectrum to perceive emotions seem to pay off. Those who are subjected to training regimes do tend to receive improved social functioning evaluations from their caregivers. It's not perfect, but it is an improvement.

TESTING

- There are a number of tools psychologists have created to assess and train individuals to perceive nonverbal clues better. One of the first tests created was the Profile of Nonverbal Sensitivity, or PONS. Robert Rosenthal and his students created PONS. It consisted of one-second clips of individuals posing emotions or behaviors. Then the viewer selects from a multiple-choice list what they thought they saw.

- Another test is the Diagnostic Analysis of Nonverbal Accuracy (DANVA) test, by Stephen Nowicki and Marshall Dukes. DANVA presents you with facial expressions, voice information, gestures, and postures. Then it has you try to identify the state creating this appearance. It has been shown that those who score high have better interpersonal success.

- Another test is the Interpersonal Perception Test, by Dane Archer and Mark Constanzo. This test presents the viewer with vignettes of people interacting, and then the viewer judges issues related to how these individuals are affiliated, who is the dominant person, and who is lying.

- A final test is the micro expression test. Called METT or MiX, it shows flash images of an individual posing one of the seven basic emotions: anger, contempt, disgust, fear, happiness, sadness, and surprise. It is forward and backward masked by images of the same poser, but with a neutral expression. People who score higher on this test are better able to detect deception.

ADVANTAGES AND TRAINING

- Being able to better read people has all sorts of advantages. For instance, research shows that those who are better get stronger evaluations from their supervisors in the workplace, as they can better navigate interactions with their bosses.

- One practical tool is to observe more closely your interpersonal relationships and those of others. The Secret Service does a lot of this, and the wizards report doing this too. It opens up a world of subtlety. Also, keep an open mind and trust in the science, making sure to stay up to date.

Being able to better read people has all sorts of advantages.

- One issue is how to better train those searching for criminals and terrorists. Is it more cost effective to train them all? Or, as the wizards project suggested, are we better off assessing people for their inherent skill, and then using those people in the search for the bad guys?

- It is an empirical issue. Clearly we know we can train people to be better. But we also know we can find people who are naturally good. Likely there are benefits to doing both. Getting the right people in the right positions is a life-or-death judgment, and the tools of the scientist can help us better make that call.

SUGGESTED READING

Gifford, "Personality is Encoded in, and Decoded from, Nonverbal Behavior."

Nowicki and Duke, "Accuracy in Interpreting Nonverbal Cues."

O'Sullivan and Ekman, "The Wizards of Deception Detection."

QUESTIONS TO CONSIDER

1 Is it worthwhile to try to articulate what goes into our gut judgment of others based upon their nonverbal signals? Does that articulation make us better or worse judges?

2 What are the merits and demerits of training professionals to better read nonverbal communication compared to selecting those who are naturally good?

3 What would be the best way to identify individuals who are naturally good at reading nonverbal communication?

Cultural Differences in Nonverbal Communication

Some nonverbal communication is shared across all of humanity, whereas much of it is learned through culture. Different cultures have different rules to regulate their nonverbal communication. Culture is a set of norms developed by societies to smooth and coordinate social interactions to prevent chaos. The importance of having an established culture is obvious, and nonverbal communication is in fact an essential element in expressing and adhering to those cultural norms. This lecture looks at how nonverbal communication varies across cultures and how you can better navigate nonverbal communication in unfamiliar cultures.

THREE DIMENSIONS

- We can classify different cultures along a few distinct dimensions. The three most studied are the concepts of monochronic and polychronic time cultures, of high- and low-context cultures, and individualist versus collectivist cultures.

- *Monochronic* and *polychronic* refer to how time is evaluated. Western cultures tend to be monochromic, where people are typically punctual and things run on time. But in a polychronic culture, a 9:30 am meeting may not start until 10:15 am.

- In high-context cultures, larger contexts imply meaning to events. For example, someone's family might play strongly into how they are evaluated. In low-context cultures, what you say can stand alone as a unit of meaning: Your credibility is based on you.

- In individualist cultures, members tend to endorse the individual over the group. In contrast, in collectivist cultures, members tend to endorse the group over the individual. Individualist cultures, on

the average, tend to endorse more nonverbal behavioral expression in general, and more individual expression in particular, than the collectivist cultures. The American penchant for loud displays of cheering and whooping is a manifestation of living in an individualist culture.

Loud displays of cheering and whooping are manifestations of living in an individualist culture.

- Despite these general observations, cross-cultural psychologist David Matsumoto found that cultures that were similar on collectivism could vary quite a bit on how much expressivity they endorse. Countries like the United States, Canada, Australia, Zimbabwe, Brazil, and Mexico all endorse high nonverbal expressivity, yet the latter three tend to be more collectivist.

- Because of this finding, more modern research still acknowledges this individualistic/collectivist distinction, but suggests that we may instead view cultures as falling along the dimensions of expressive cultures versus reserved cultures.

BIOLOGY

- Some cultural groups exist as a function of their biology, for example, children compared with adults or women compared with men. These cultural differences can manifest themselves in the biology of the differences between the groups. One example is that people can tell a woman's walk from a man's walk when all other identifying characteristics are removed with 80 percent accuracy.

- Some nonverbal communication differences are driven by the direct interplay of biology and culture. Cultures develop often-unwritten *display rules* that regulate who can express what behavior to whom, and in what context. These display rules can vary for age and gender within a culture.

- Managing facial expressions is often right at the nexus of biology and culture. When we experience an emotion, an involuntary movement of our facial muscles produces an expression of that particular emotion.

- Two parts of the brain can independently influence the face: the subcortical limbic system, which is responsible for the emotional reaction, and the cortical motor strip, which is responsible for deliberate, chosen movement.

- The limbic system activation is what causes changes in blood pressure, sweaty hands, and the increase in heart rate when feeling fear. That same part of the brain sends a signal to your face to produce an emotional expression of fear. However, if the situation calls for you to not show fear, a contradictory signal emerges from the cortical motor strip to try to inhibit that expression. Thus, that facial expression can be completely inhibited, or at least reduced.

CULTURE AND FACIAL EXPRESSIONS

- Culture intervenes in two parts of the facial-expression process: at the end, in managing the expression, but also in the beginning, where culture also plays a role in the activation or launch of the emotion.

- One specific stimulus may produce two different emotions depending upon culture. Someone who grew up in the United States might find the eating of a live octopus to trigger disgust, whereas in someone raised in Korea, it might trigger the emotion of happiness—octopus is a delicacy there. However, the actual emotion, once activated, is biological. Then, once you are experiencing this emotion, culture intervenes a second time to provide rules for how to manage that expression.

- There are different ways you can manage your facial expressions. You can simply express what you feel, as you might do that amongst close friends or family. Or you can amplify your expression to make it seem bigger than it actually is, such as smiling more broadly when receiving a gift from a child.

- Another example is to deamplify your expression to make it smaller without erasing it entirely. Or you can neutralize the expression, suppressing it entirely. Another option is to qualify an expression, for example, smiling while in pain to let others know you'll be OK.

A teacher who fails to deamplify their anger may end up frightening their student.

- In one study, David Matsumoto made detailed, moment-by-moment photos of Olympic Judo competitors to examine how they used their cultural display rules to manage their emotions. However, the long history of judo involves a very strong ethic of respecting your opponent; one does not show up their vanquished opponent with raucous celebration.

- Matsumoto and his colleague, Bob Willingham, got down on the floor of the judo competition in the 2004 Summer Olympic games and captured spontaneous expressions on the face of a victor. They first noted at the moment of victory there as a spontaneous expression of joy. The victor quickly, within a second or two, suppressed this. However, as they observed for a few seconds longer, the spontaneous joy started to creep back onto the face of the victor.

CULTURAL NORMS

- Cultural norms can directly produce various nonverbal behaviors, which are learned like language and can vary greatly from culture to culture. For example, making eye contact with a speaker is a sign of respect in some cultures. Not making eye contact is a sign of respect in other cultures.

- Cultures also vary in how long people maintain eye contact, as well as how close they stand when they talk. In some Arabic cultures, it is expected that you should stand close enough to smell the breath of the other. That would not be the case in North America.

- There are some cultural differences in posture too. For example, one study of Dutch Guyanese show that they tend to sit in a way that makes them look more like they are not attending to what the person is saying. This is in contrast to Dutch from the Netherlands. They tend to sit more attentively in facing forward. Yet both groups are similarly attentive in reality.

- Cultures vary in how much they touch. In some cultures, men will hold each other's hands when they talk to each other. It is not uncommon to see some heterosexual women walking arm-in-arm in other cultures.

- Cultures also vary in the number and type of gestures they show and their meanings. A classic example was the crew of the U.S.S. *Pueblo*, captured by North Korea in 1968. The North Koreans decided to release a photo of the captive men, to prove they were in good spirits and health. A number of the men extended a middle finger as they posed, which to an American sends a clear signal, but one that was not detected by North Korean culture.

CULTURAL TIPS

- Knowing these cultural differences enhances one's ability to flourish in a given culture. If you're going somewhere for the first time, get some guidebooks that help you learn the cultural norms concerning expression. But also check with a local first: Information in guidebooks can become outdated.

- If you are not sure what something means, or why people are fleeing in horror from you, ask. People like their own cultures and are often eager and excited to know you respect them enough to want to learn about it.

- Third, when in doubt, just watch the locals. For example, when a group of people is dining in Japan, any given person does not pour his or her own drink. The way to signal you'd like a refill is to pour for another person, even if only a little. That is likely enough to alert someone at the table to examine your cup or glass and then pick up the bottle and serve you.

SUGGESTED READING

Matsumoto and Hwang, "The Cultural Bases of Nonverbal Communication."

LaFrance and Vial, "Gender and Nonverbal Behavior."

QUESTIONS TO CONSIDER

1. How much is nonverbal communication affected by our familial upbringing compared to our cultural upbringing?

2. How does the management of your emotional expression, based upon cultural norms, actually effect your emotional reactions and feelings?

3. Are there critical points in your development where you can override the effect of your culture on your nonverbal communication?

Spotting Nonverbal Deception

The question we are going to focus on in this lecture is: To what extent can nonverbal communication help us detect lies when they happen? The lecture starts out by trying to nail down just what a lie is. It then moves on to discuss what research has discovered about the different processes that occur when someone tells a lie, including blind spots in such research. The lecture closes with some practical advice about detecting a lie.

DEFINING A LIE

- Often the terms *deception* and *lying* are used interchangeably, but there is an important difference. Many scholars believe deception is the superordinate category, of which one subcategory is telling a lie. Specifically, deception is any action or phenomenon that misleads. Lying, according to scientist Paul Ekman, is an act whereby someone *deliberately* misleads another, and does so without any prior notification that he or she will be misleading the other person.

Deception is any action or phenomenon that misleads.

- One implication of the word *deliberate* is that the person telling an untruth believes what they are saying will mislead. If this person *truly* believes that the information they've told you is accurate, then it is not a lie, no matter how outlandish. But if they know the information they told you is inaccurate and misleading, then what they've said is a lie.

- These definitional distinctions are not simply an academic exercise; they have implications for identifying the nonverbal behaviors that can betray a lie. Someone will look like a truth teller if they believe they are telling the truth.

To what extent can nonverbal communication help us detect lies when they happen?

- For this lecture, we will be addressing the research associated with lying, not deception in general, and all the behaviors we will discuss are dependent upon the individual knowing they are misleading someone.

FALSE CLUES OF LYING

- There is no behavior that is exclusive to lying. Similarly, there is no behavior or sign whose absence indicates that the person is telling the truth.

- Avoiding eye contact is not a sign of a lie. It is one for children, but by the time they turn 12 or 13, avoidance of eye contact is no longer predictive of lying. That's because children learn that people expect them to make eye contact when telling the truth.

- There is much mythology about what liars do. One idea is that you can tell when people are lying based on which direction their eyes move. This is from something called neurolinguistic programming, or NLP. The idea is that liars look right because they are accessing their right brains, which is more creative than their literal left brains. However, despite the popularity of NLP, there have been numerous studies to examine whether liars look right. To date, not one has identified this pattern for liars.

ASPECTS OF LYING

- There are some behaviors or signs associated with telling a lie. In fact, the most recent meta-analytic reviews—these are reviews of the entire published literature—have suggested that liars tend to behave in ways that make them look tenser and less forthcoming than truth tellers.

- Theoretically, observing tension and reticence makes sense given that all human nonverbal expressive behavior is generated either by our emotional reactions or our cognitive activity, corresponding to tension and appearing less forthcoming, respectively.

- Emotional reactivity related to lying refers to the behaviors associated with feelings caused by the act of lying itself—feeling guilty for telling a lie—or attempts to falsify or conceal feelings, for example, saying we're overjoyed when in fact we're angry.

- Cognitive activity as involved in lying refers to two things: the behaviors associated with the extra mental effort and dexterity it takes to fabricate a story, and the signature features of natural human memory that suggest a person actually experienced an event and is not fabricating an account.

- Virtually all scientists agree that emotions and cognition are the main underpinnings for all behavioral clues to lying, and that we need to understand both in order fully understand behavioral reactions when someone lies.

- Another variable is strategic behavioral control, which refers to the techniques liars employ to deliberately conceal or camouflage their behavioral signs of thinking and feeling. One example is consciously concealing fidgeting.

NONVERBAL SIGNS OF LYING

- The higher cognitive load and extra mental effort required when lying tend to manifest in the vocal style channel, through what we call *paralinguistic channels*. Paralinguistic refers to all the sounds you make when speaking except for the specific words.

- Researchers have found that liars have longer speech latencies, meaning it takes them longer to respond to the question. Liars also have increased speech disturbances, meaning more stutters, ums, ahs, speech errors, and so forth. They also have less verbal and vocal involvement, meaning they seem more distant. Liars also provide shorter answers.

- It is very important to keep in mind that these behavioral patterns are changes from someone's normal, truthful style of behavior—what we call their *normal* or *baseline behavior*. A delay in responding is in relation to how fast you respond when you are telling the truth. We must also keep in mind that these behaviors are really signs of thinking on one's feet, and are not guaranteed proof that a person is lying.

- These cognitive behavioral clues can appear in the face as well. When a person is thinking hard, their blink rate may change, although some studies suggest liars blink less, whereas others suggest they blink more. This is where close observation is key: At the moment of commitment to the lie, the liar blinks less, particularly if they have had time to prepare their lies.

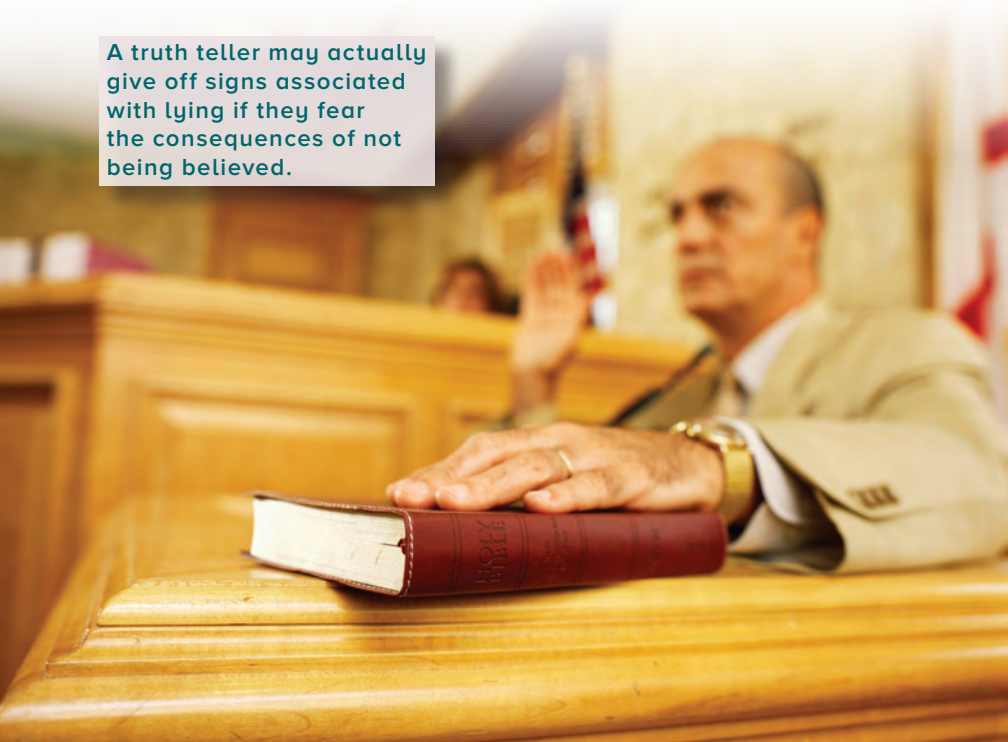
- Finally, we can see these clues in the body channel as well. Research consistently shows that liars tend to have a reduced rate of illustrators, which are the hand movements that often accompany speech, due to the higher cognitive load of lying.

- One very important caution: In the real world, the relationship between cognitive clues and deception is considerably more complicated than what we see in the laboratory setting. For example, people in actual high-stakes situations, like criminal suspects, often use more complicated responses than the research subjects' good-faith efforts to answer questions. These tricks increase the response latency because although the liar is speaking, he or she is not answering the question until much later in their response.

LIES AND EMOTIONS

- Lies can generate emotional reactions ranging from excitement and pleasure to fear of getting caught, feelings of guilt, and feelings of distress, disgust, or contempt. The latter emotions are generated by our cultural beliefs that lying is one of the worst things one can do.

A truth teller may actually give off signs associated with lying if they fear the consequences of not being believed.



- The more a liar feels fear of getting caught or other emotions, the more likely he or she is to leak signs of these emotions in their faces, voices, and bodies. These include traces of the facial expression of fear, raised voice tone, increased manipulators, sweat, and body orientation more conducive to escape or avoidance. Note that if a deception situation does not generate strong emotions, these emotion-based signals will not exist.

- Research has shown that liars are more likely to demonstrate fear, distress, disgust, and contempt compared to truth tellers. When someone is not motivated to conceal their emotions, their expressions tend to last between one-half and four seconds in length. However, in deception situations, where the liar is motivated to conceal their emotions, often these facial expressions of emotion last for less than half a second, making a micro expression.

CAUTION

- The majority of the current research literature on deception has examined low-stakes, trivial lies with no consequences for getting caught. In contrast, real-life applied contexts tend to involve strong punishments for the liar who gets caught and potentially large rewards for the liar who is able to fool others.

- Therefore, the majority of the research literature may not be fully relevant to real-world applications in security, law enforcement, or the courts as far as the emotional signals go. This means that one must exercise caution even when examining otherwise excellent meta-analyses of the research literature on deception, as they often lump together high- and low-stake studies.

- The most recent and comprehensive meta-analysis did separate high and low motivation. It showed that more emotion-based clues, such as appearing tense, were prominent in the high-motivation studies.

- Finally, we must be cautious about over-interpreting emotional clues. They are simply clues that the person is feeling an emotion. The observer still has to figure out why this person is feeling that emotion. Is the subtle sign of fear in the face and voice the fear of a liar who is afraid of getting caught, or is it the fear of a truth teller who is afraid that they are not being believed?

- Paul Ekman called this the *Othello error* after Shakespeare's Othello, who misinterprets the emotion of his wife as a sign of deception, rather than fear for her life for being misjudged.

RECENT RESEARCH AND ADVICE

- Recent research has begun to take these variables and examine them in wider contexts. One advance is to not simply count the behaviors, but look at them in context. For example, shoulder shrugs are a very weak predictor of deception, but when someone says, "I'm positive" and shrugs, the shrug contradicts the statement.

- A second advance is to look at the dynamic flow of actions. For example, in a study on pain, untrained people could not tell very well who was really in pain and who was faking pain. However, a new computer program to read facial movements helped reveal that the smoothness of the mouth movements strongly predicted real versus fake pain.

- The actual in-pain people showed a rhythmic movement when their mouths opened. In fact, the untrained people got 55 percent correct, but the computer program got 85 percent correct based on that dynamic, smooth movement.

- We've made progress in detecting lies from behavior, but likely we will never be perfect, because all the mechanisms that we employ to conceal, fabricate, or feel can happen for reasons other than lying. Despite all that, nonverbal clues have a hugely important role in betraying a lie.

- The context surrounding these behavioral clues is essential to understanding and interpreting them. For example, a fear expression can betray a lie, but it is not a sign of lying per se. A person who shows a sign of fear when they tell a story about almost being killed on the road is showing an emotion that fits the story.

- The best strategy may be to note when these signs of emotion or cognition are occurring, and then ask yourself why. Follow up with more questions to figure out why you saw that reaction in that other person. Given that no behavior guarantees that a person is lying, these signs are best thought of as driving your search for hard evidence or contradictions in the story, which is the only way to prove that the person was lying.

SUGGESTED READING

Ekman, *Telling Lies*.

Frank and Svetieva, "The Role of Nonverbal Communication in Detecting and Telling Lies."

QUESTIONS TO CONSIDER

1 How might detecting deception from nonverbal behavior complement or contradict other techniques, like the polygraph?

2 How might you combine the nonverbal communication associated with deception with the verbal communication associated with deception to better detect deception?

3 How do you become a better detector, as well as interpreter, of nonverbal clues associated with deception?

4 How does the content of the lie itself affect the relative utility of different nonverbal clues to deceit?

Communicating Attraction

This lecture discusses how nonverbal communication may affect relationships of all kinds. In all these settings, nonverbal communication provides clues to the progress and status of relationships. Someone who is aware of these clues can, in essence, get ahead of problems before they emerge. This lecture focuses on four relationship types: teacher-student relationships, doctor-patient relationships, relationships with a job interviewer, and romantic relationships.

TEACHERS

- Some research into teaching shows a certain nonverbal style is most effective in conveying information and increasing enthusiasm amongst students. This style has been labeled as showing *immediacy*. This style consists of more forward lean, more eye contact, more smiling, more touch (when appropriate), more gesturing, and more variation in voice tone.

- It's not entirely clear why this style works. One idea is that the variability in the tone, movements, and eye contact captures the student's attention. Another suggestion is that it causes the students to like, and hence trust, the teacher more. If that happens, then they are motivated to try and work harder for that teacher. Or it could be both of these ideas in combination.

- A note of caution here: Too much immediacy can become distracting. Also, in some cultures with more formal social hierarchies, too much immediacy may seem weird or even threatening, or perhaps de-legitimizing for the teacher. Some immediacy is helpful in all cultures. Just keep in mind that different cultures have different lines for when it becomes too much.

JOB INTERVIEWS

- The extent to which you, as a job candidate, look attentive and enthusiastic about the job will likely help sway a personnel officer to select you for the job. So what does that attentive enthusiasm look like, behaviorally?

- The psychologist Ronald Riggio says to exhibit PIE: Poise, Interest, and Expressiveness. You convey these PIE qualities through an attentive, forward lean (like immediacy), confidence (looking people in the eye, but not staring), more variation in your voice tone, gesturing when you speak, and being expressive with smiles, showing positive emotion.

- Remember that these nonverbal management behaviors need to flow with your verbal speech. They must not look artificial, so you do need to practice. Additionally, knowing the company, doing research on it and the people whom you aspire to work with, and saying the right things likely weigh more in whether you get hired. However, if there are two equally qualified candidates who say roughly the same thing, then nonverbal behavior can give an edge.

DOCTORS

- Physicians who recognize the nonverbal displays of patients are more effective. In the old days, this was called *bedside manner*. It is still a crucial part of medicine, as physicians with good relationships with their patients get more cooperative patients.

- Many patients are motivated to conceal things from their doctors. These are mostly their lifestyle issues, like smoking, diet, exercise, taking medications, alcohol consumption, and sex habits.

- When a physician uses a nonverbal style that builds rapport; conveys a non-judgmental approach; and smiles, nods, and touches patients, this encourages the patients to disclose. This is important because if the physician does not know what you are ingesting or doing, he or she may not be able to either properly diagnose the problem or prescribe the solution.

- Physicians get very little to no training in nonverbal communication, and yet it can be enormously helpful. Patients can, and do, send nonverbal clues that can alert the physician when to pursue a line of questioning.

    - One example is a doctor who noticed a look of fear on a 16-year-old girl's face when he asked if she was pregnant. She said no, but also became stiffer in her posture. This was asked before an X-ray, which is standard.

    - The look and the stiffness alerted the doctor that he needed to ask more questions, and maybe without the mother in earshot. He did, and she confessed that she was late with her period. She said she'd been having sex with her boyfriend, and that her mother did not know she was sexually active.

    - He encouraged her to tell her mother, and then made adjustments to the examination procedure as if she were pregnant, just to insure there would be no possible harm.

Healthcare professionals must be observant of noverbal cues to ensure patients get the best care.

- Psychiatrists can also avail themselves of useful information about their patients through nonverbal clues. For example, schizophrenics show disorganized, disfluent emotional facial expressions. The facial muscle movement elements of the expression don't show coordination or smoothness. This would be expected because it seems the same inner area of the brain responsible for emotional signals is also one area that is affected by schizophrenia.

- Nonverbal clues can also help identify potentially dangerous patients. The psychiatrist Michael Privitera has argued that you can apply a layered analysis of patients, almost like observational zones. Here's how it works:

    - First, the psychiatrist notices things at the farthest distance away, mainly where and how the patient is sitting.

    - Second, as the psychiatrist moves in a bit closer, they can observe how the patient is dressed—it could be rebellious, sexualized, or something else.

    - Third, as the psychiatrist moves closer still, they can observe how the patient is groomed and smells.

    - Fourth, as the psychiatrist gets even closer, they can observe how the patient is acting. For instance, they could be harboring a weapon and protecting the area of the body it's hidden on.

- Finally, as the psychiatrist gets closest, they can see things like if the patient is sweating, has dilated pupils, or signs of distress or depression on the face.

- Taken together, all this information helps the psychiatrist more quickly assess the mental status of the patient before even speaking with them. This better allows an assessment as to whether they are paranoid, schizophrenic, depressed, or possibly dangerous.

ROMANTIC RELATIONSHIPS

- Romantic relationships leave telltale nonverbal markers as to their status and progress. Nonverbal clues indicate initial attraction, can indicate what might be needed for the maintenance of the relationship, and can foretell a coming dissolution of the relationship.

- At the start of a relationship, research has shown that women tend to show more nonverbal signs of interest than men, and those signs are stronger and more easily detected. First, though, let's start with the signs that occur in both males and females.

- Interested people do a few things nonverbally that they would not do if they weren't interested. They will lean in towards each other more, more directly face each other, and engage in more incidental touch with each other. They will both hold eye contact just a beat or two longer than they would with someone they were not interested in. They would both smile more. And they would both show pupil dilation. Females will also blush, or flush, a bit more in the face. Their lips will also engorge and look thicker.

- Once a full-fledged dating relationship begins, nonverbal signs continue. Early in relationships, men initiate touch more than women. Once married, women initiate more touch. On a date, two romantic partners make more eye contact, smile more, touch more, and lean in more than would two friends out for dinner.

- After marriage, nonverbal signs persist. When a couple is in a happy relationship, they are better able recognize each other's emotions, and often take steps to manage each other's emotional states.

- In happy relationships, negative emotions get de-escalated. At the lower levels of negative emotions, when the first signs or signals appear, the male will usually de-escalate the negativity by making a joke or doing something else to change the course of the encounter.

- At higher levels of negativity, it is usually the female who steps in to de-escalate the negative emotion. This may be due to the fact that males often have a harder time articulating themselves at high emotional arousal levels, because for a male, high emotional arousal—the change in his physiology compared to his resting baseline—is considerably stronger.

- The psychologist John Gottman observed couples over the course of years. He identified a pattern of behavior that predicts whether the couple will divorce within the next two years at around 90 percent accuracy. He called them the four horsemen of the relationship apocalypse: criticism, contempt, defensiveness, and withdrawal.

    - Criticism and defensiveness are verbal signals, often with nonverbal correlates like we see in sarcasm. Withdrawal is mainly physiological: They no longer react to each other.

    - But contempt is a nonverbal signal expressed in the face. It is extremely toxic. In fact, the amount of anger a couple shows does not predict whether they will divorce, but the presence of contempt does.

- There is hope: One can intervene and get the couple to reengage and discuss the problems underneath the withdrawal or the contempt. Gottman found that staying happy relies on doing the little things—gentle squeezes, smiles, showing attentiveness—often.

CONCLUSION

- Paying attention to the little signals in life may produce huge results. Nonverbal behavior is an important and essential part of situations found in day-to-day life.

- We are learning more and more about the importance of nonverbal communication not just in everyday life, but in important, high-stakes situations found in business, law enforcement, medicine, and even combating terrorism.

- The tools of the scientist, in conjunction with close observation, were essential in uncovering the world of nonverbal communication. It enabled us to not just see and hear nonverbal communication, but to understand it. And when you understand nonverbal communication, you understand people.

Nonverbal displays of affection, like simply touching, can go a long way toward maintaining romantic relationships.

- Nonverbal communication is truly the essence of people. We have the saying that "talk is cheap," which means verbally we can say anything. Nonverbal actions, however, are our true essence because they are less controllable and we're less aware of them.

- The biological elements associated with nonverbal communication are not discouraging messages about our limits as defined by our prehistoric past, but instead are wonderfully optimistic message about our ability to relate to any other human being on our planet. No matter where you live on this earth, you have feelings and emotions. So does everyone else, and thus we have an evolutionary, built-in platform for understanding.

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QUESTIONS TO CONSIDER

1. How should a physician use the nonverbal information he or she observes to best balance accuracy of treatment and patient comfort?

2. Why does immediacy affect performance in the classroom?

3. If males are biologically wired to approach available females, then why would females need to show stronger nonverbal signs of romantic interest?

4. How does a couple's natural level of skill in reading nonverbal communication affect the quality of their relationship?

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Matsumoto, David, Hyisung C. Hwang and Mark G. Frank. “The Body: Postures, Gait, Proxemics, and Haptics.” In *The APA Handbook of Nonverbal Communication,* edited by David Matsumoto, Hyisung C. Hwang, and Mark G. Frank, 387-400. Washington DC: American Psychological Association Press, 2016. A good current summary of the work on body actions and nonverbal communication.

Matsumoto, David, Mark G. Frank, and Hyisung C. Hwang. *Nonverbal Communication: Science and Applications.* Thousand Oaks, CA: Sage, 2013. The first half is written by the scientists, the second half by practitioners from medicine, law enforcement, the courts, and business on how they use nonverbal communication in their jobs. The last chapter tries to rectify those comments with the science.

Matsumoto, David, and Hyisung C. Hwang. “The Cultural Bases of Nonverbal Communication.” In *The APA Handbook of Nonverbal Communication,* edited by David Matsumoto, Hyisung C. Hwang, and Mark G. Frank, 77–102. Washington DC: American Psychological Association Press, 2016. A great explanation of how culture and expression are linked.

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